

SEQUENCE LISTING

<110> UNO, Yumiko
HIKICHI, Yukiko
SAGIYA, Yoji
NAKANISHI, Atsushi

<120> Novel Protein and its DNA

<130> 3015US0P

<140> US 10/501,566
<141> 2004-07-15

<150> PCT/JP03/00311
<151> 2003-01-16

<150> JP 2002-10840
<151> 2002-01-18

<150> JP 2002-15995
<151> 2002-01-24

<150> JP 2002-25662
<151> 2002-02-01

<150> JP 2002-25706
<151> 2002-02-01

<150> JP 2002-30015
<151> 2002-02-06

<150> JP 2002-33111
<151> 2002-02-08

<150> JP 2002-45058
<151> 2002-02-21

<150> JP 2002-46951
<151> 2002-02-22

<160> 172

<210> 1
<211> 377
<212> PRT
<213> Human

<400> 1

Met Arg Ala Asn Cys Ser Ser Ser Ser Ala Cys Pro Ala Asn Ser Ser

5 10 15

Glu Glu Glu Leu Pro Val Gly Leu Glu Val His Gly Asn Leu Glu Leu

20 25 30

Val Phe Thr Val Val Ser Thr Val Met Met Gly Leu Leu Met Phe Ser

35 40 45

Leu Gly Cys Ser Val Glu Ile Arg Lys Leu Trp Ser His Ile Arg Arg

50 55 60

Pro Trp Gly Ile Ala Val Gly Leu Leu Cys Gln Phe Gly Leu Met Pro
 65 70 75 80
 Phe Thr Ala Tyr Leu Leu Ala Ile Ser Phe Ser Leu Lys Pro Val Gln
 85 90 95
 Ala Ile Ala Val Leu Ile Met Gly Cys Cys Pro Gly Gly Thr Ile Ser
 100 105 110
 Asn Ile Phe Thr Phe Trp Val Asp Gly Asp Met Asp Leu Ser Ile Ser
 115 120 125
 Met Thr Thr Cys Ser Thr Val Ala Ala Leu Gly Met Met Pro Leu Cys
 130 135 140
 Ile Tyr Leu Tyr Thr Trp Ser Trp Ser Leu Gln Gln Asn Leu Thr Ile
 145 150 155 160
 Pro Tyr Gln Asn Ile Gly Ile Thr Leu Val Cys Leu Thr Ile Pro Val
 165 170 175
 Ala Phe Gly Val Tyr Val Asn Tyr Arg Trp Pro Lys Gln Ser Lys Ile
 180 185 190
 Ile Leu Lys Ile Gly Ala Val Val Gly Gly Val Leu Leu Leu Val Val
 195 200 205
 Ala Val Ala Gly Val Val Leu Ala Lys Gly Ser Trp Asn Ser Asp Ile
 210 215 220
 Thr Leu Leu Thr Ile Ser Phe Ile Phe Pro Leu Ile Gly His Val Thr
 225 230 235 240
 Gly Phe Leu Leu Ala Leu Phe Thr His Gln Ser Trp Gln Arg Cys Arg
 245 250 255
 Thr Ile Ser Leu Glu Thr Gly Ala Gln Asn Ile Gln Met Cys Ile Thr
 260 265 270
 Met Leu Gln Leu Ser Phe Thr Ala Glu His Leu Val Gln Met Leu Ser
 275 280 285
 Phe Pro Leu Ala Tyr Gly Leu Phe Gln Leu Ile Asp Gly Phe Leu Ile
 290 295 300
 Val Ala Ala Tyr Gln Thr Tyr Lys Arg Arg Leu Lys Asn Lys His Gly
 305 310 315 320
 Lys Lys Asn Ser Gly Cys Thr Glu Val Cys His Thr Arg Lys Ser Thr
 325 330 335
 Ser Ser Arg Glu Thr Asn Ala Phe Leu Glu Val Asn Glu Glu Gly Ala
 340 345 350
 Ile Thr Pro Gly Pro Pro Gly Pro Met Asp Cys His Arg Ala Leu Glu
 355 360 365
 Pro Val Gly His Ile Thr Ser Cys Glu
 370 375

<210> 2
 <211> 1131
 <212> DNA
 <213> Human

<400> 2

atgagagcca attgttccag cagtcagcc tgccctgcca acagttcaga ggaggagctg 60
 ccagtggac tggaggtgca tggaaacctg gagctcggtt tcacagtggt gtccactgtg 120
 atgatgggc tgctcatgtt ctcttgggta tgttccgtgg agatccggaa gctgtggtcg 180
 cacatcgaga gaccctgggg cattgctgtg ggactgctct gccagttgg gctcatgcct 240
 tttacagctt atctcctggc cattagcttt tctctgaagc cagtccaagc tattgtgtt 300
 ctcatcatgg gctgctgccc ggggggcacc atctctaaca ttttcacctt ctgggttgat 360
 ggagatatgg atctcagcat cagtagaca acctgttcca ccgtggccgc cctggaaatg 420
 atgccactct gcatttatct ctacacctgg tcctggagtc ttcaagcagaa tctcaccatt 480
 ccttatacaga acataggaat tacccttgtg tgcctgacca ttccctgtggc ctttgggtgc 540
 tatgtgaatt acagatggcc aaaacaatcc aaaatcattc tcaagattgg ggccgttgtt 600

ggtggggtcc tccttctgg ggtcgagtt gctgggtgg tcctggcgaa aggatctgg	660
aattcagaca tcacccttct gaccatcagt ttcatcttc ctttgattgg ccatgtcacg	720
ggtttctgc tggcactttt taccaccag tcttggcaaa ggtgcaggac aatttcctta	780
gaaactggag ctcagaatat tcagatgtgc atcaccatgc tccagttatc tttcaactgct	840
gagcaactgg tccagatgtt gagttccca ctggcctatg gactcttcca gctgatagat	900
ggatttctta ttgttgcagc atatcagacg tacaagagga gattgaagaa caaacatgga	960
aaaaagaact cagggtgcac agaagtctgc catacgagga aatcgacttc ttccagagag	1020
accaatgcct tcttggaggt gaatgaagaa ggtgccatca ctcctgggcc accagggcca	1080
atggattgcc acagggctct cgagccagtt ggccacatca cttcatgtga a	1131

<210> 3
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 3
aatgctgcct taaggagatg agga

24

<210> 4
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 4
cactggccct accaacaaga ttca

24

<210> 5
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 5
atgagagcca attgttccag cagc

24

<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 6
ccagccagct agtccctgct attc

24

<210> 7
<211> 18
<212> DNA

<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 7		
atttaggtga cactata	18	
<210> 8		
<211> 19		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 8		
aatacgactc actataagg	19	
<210> 9		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 9		
ttcgccagga ccacaccagg aact	24	
<210> 10		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 10		
agttgctggc gtggcctgg cgaa	24	
<210> 11		
<211> 1152		
<212> DNA		
<213> Human		
<400> 11		
atgagagcca attgttccag cagctcagcc tgccctgcca acagttcaga ggaggagctg	60	
ccagtggac tggaggtgca tggaaacactg gagctcggtt tcacagtggt gtccactgtg	120	
atgatggggc tgctcatgtt ctcttggg tggccgtgg agatccggaa gctgtggtcg	180	
cacatcgaga gaccctgggg cattgctgtg ggactgctct gccagttgg gctcatgcct	240	
tttacagctt atctcctggc cattagctt tctctgaagc cagtccaaagc tattgtgtt	300	
ctcatcatgg gctgctgccc ggggggcacc atctctaaca ttttcacctt ctgggttgat	360	
ggagatatgg atctcagcat cagtagtaca acctgttcca ccgtggccgc cctggaaatg	420	
atgccactct gcatttatct ctacacctgg tcctggagtc ttccagcagaa tctcaccatt	480	
ccttatacaga acataggaat tacccttggc tgccctgacca ttccctgtggc ctttgggtgc	540	
tatgtgaatt acagatggcc aaaacaatcc aaaatcattc tcaagattgg ggccgttgg	600	

ggtgggtc	tccttctgg	ggtcgcagtt	gctgggtgg	tcctggcga	aggatctgg	660
aattcagaca	tcacccttct	gaccatcagt	ttcatcttc	cttgattgg	ccatgtcacg	720
ggtttctgc	tggcactttt	tacccaccag	tcttggcaaa	ggtcaggac	aatttccta	780
gaaactggag	ctcagaatat	tcagatgtgc	atcaccatgc	tccagttatc	tttcaactgct	840
gagcaactgg	tccagatgtt	gagttccca	ctggcctatg	gactcttcca	gctgatagat	900
ggatttctta	ttgttgcagc	atatcagacg	tacaagagga	gattgaagaa	caaacatgga	960
aaaaagaact	cagggtgcac	agaagtctgc	catacgagga	aatcgacttc	ttccagagag	1020
accaatgcct	tcttggaggt	gaatgaagaa	ggtgcacatca	ctcctgggccc	accagggcca	1080
atggattgcc	acagggctct	cgagccagtt	ggccacatca	cttcatgtga	atagcaggg	1140
ctagctggct	gg					1152

<210> 12
<211> 1152
<212> DNA
<213> Human

<400> 12								
atgagagcca	attgttccag	cagtcagcc	tgccctgcca	acagttcaga	ggaggagctg	60		
ccagtggac	tggaggtgca	tggaaacctg	gagctcg	ttt	tcacagtgg	gtccactgtg	120	
atgatgggc	tgctcatgtt	ctcttgg	tgttccgtgg	agatccggaa	gctgtgg	tcg	180	
cacatcagga	gaccctgggg	cattgctgtg	ggactgctct	gccagtttg	gctcatgc	cttgc	240	
tttacagctt	atctcctggc	cattagctt	tctctga	agc	cagtccaa	gc	300	
ctcatcatgg	gctgtgccc	ggggggcacc	atctcta	acg	tttccac	ttt	360	
ggagatatgg	atctcagcat	cagtatgaca	acctgttcca	ccgtggccgc	cctgg	gaatg	420	
atgccactct	gcatttatct	ctacac	ctgg	gg	ttcagc	gagaa	tctcaccatt	480
ccttatacaga	acataggaat	tacc	ttgt	tg	tgc	cgtg	cc	540
tatgtgaatt	acagatggcc	aaaacaatcc	aaaatcatc	tca	agattgg	ggccgtt	gtt	600
ggtgggtc	tccttctgg	ggtgcagtt	gctgg	gtgg	tc	cttgg	gtat	660
aattcagaca	tcacccttct	gaccatcagt	ttcatcttc	ctt	gttgg	atgg	ccatgtcacg	720
ggtttctgc	tggcactttt	tacccaccag	tcttggcaaa	ggtcaggac	aatttccta			780
gaaactggag	ctcagaatat	tcagatgtgc	atcaccatgc	tccagttatc	tttcaactgct			840
gagcaactgg	tccagatgtt	gagttccca	ctggcctatg	gactcttcca	gctgatagat			900
ggatttctta	ttgttgcagc	atatcagacg	tacaagagga	gattgaagaa	caaacatgga			960
aaaaagaact	cagggtgcac	agaagtctgc	catacgagga	aatcgacttc	ttccagagag			1020
accaatgcct	tcttggaggt	gaatgaagaa	ggtgcacatca	ctcctgggccc	accagggcca			1080
atggattgcc	acagggctct	cgagccagtt	ggccacatca	cttcatgtga	atagcaggg			1140
ctagctggct	gg							1152

<210> 13
<211> 1131
<212> DNA
<213> Human

<400> 13								
atgagagcca	attgttccag	cagtcagcc	tgccctgcca	acagttcaga	ggaggagctg	60		
ccagtggac	tggaggtgca	tggaaacctg	gagctcg	ttt	tcacagtgg	gtccactgtg	120	
atgatgggc	tgctcatgtt	ctcttgg	tgttccgtgg	agatccggaa	gctgtgg	tcg	180	
cacatcagga	gaccctgggg	cattgctgtg	ggactgctct	gccagtttg	gctcatgc	cttgc	240	
tttacagctt	atctcctggc	cattagctt	tctctga	agc	cagtccaa	gc	300	
ctcatcatgg	gctgtgccc	ggggggcacc	atctcta	acg	tttccac	ttt	360	
ggagatatgg	atctcagcat	cagtatgaca	acctgttcca	ccgtggccgc	cctgg	gaatg	420	
atgccactct	gcatttatct	ctacac	ctgg	gg	ttcagc	gagaa	tctcaccatt	480
ccttatacaga	acataggaat	tacc	ttgt	tg	tgc	cgtg	cc	540
tatgtgaatt	acagatggcc	aaaacaatcc	aaaatcatc	tca	agattgg	ggccgtt	gtt	600
ggtgggtc	tccttctgg	ggtgcagtt	gctgg	gtgg	tc	cttgg	gtat	660
aattcagaca	tcacccttct	gaccatcagt	ttcatcttc	ctt	gttgg	atgg	ccatgtcacg	720
ggtttctgc	tggcactttt	tacccaccag	tcttggcaaa	ggtcaggac	aatttccta			780

gaaactggag	ctcagaatat	tcagatgtgc	atcaccatgc	tccagttatc	tttcactgct	840
gagcaactgg	tccagatgtt	gagttccca	ctggccatag	gactcttcca	gctgatagat	900
ggatttctta	ttgttgcagc	atatcagacg	tacaagagga	gattgaagaa	caaacatgga	960
aaaaagaact	cagggtgcac	agaagtctgc	catacgagga	aatcgacttc	ttccagagag	1020
accaatgcct	tcttggaggt	gaatgaagaa	ggtgccatca	ctcctggcc	accagggcca	1080
atggattgcc	acagggctct	cgagccagtt	ggccacatca	cttcatgtga	a	1131

<210> 14
<211> 377
<212> PRT
<213> Human

<400> 14						
Met Arg Ala Asn Cys Ser Ser Ser Ser Ala Cys Pro Ala Asn Ser Ser	5	10	15			
Glu Glu Glu Leu Pro Val Gly Leu Glu Val His Gly Asn Leu Glu Leu	20	25	30			
Val Phe Thr Val Val Ser Thr Val Met Met Gly Leu Leu Met Phe Ser	35	40	45			
Leu Gly Cys Ser Val Glu Ile Arg Lys Leu Trp Ser His Ile Arg Arg	50	55	60			
Pro Trp Gly Ile Ala Val Gly Leu Leu Cys Gln Phe Gly Leu Met Pro	65	70	75	80		
Phe Thr Ala Tyr Leu Leu Ala Ile Ser Phe Ser Leu Lys Pro Val Gln	85	90	95			
Ala Ile Ala Val Leu Ile Met Gly Cys Cys Pro Gly Gly Thr Ile Ser	100	105	110			
Asn Val Phe Thr Phe Trp Val Asp Gly Asp Met Asp Leu Ser Ile Ser	115	120	125			
Met Thr Thr Cys Ser Thr Val Ala Ala Leu Gly Met Met Pro Leu Cys	130	135	140			
Ile Tyr Leu Tyr Thr Trp Ser Trp Ser Leu Gln Gln Asn Leu Thr Ile	145	150	155	160		
Pro Tyr Gln Asn Ile Gly Ile Thr Leu Val Cys Leu Thr Ile Pro Val	165	170	175			
Ala Phe Gly Val Tyr Val Asn Tyr Arg Trp Pro Lys Gln Ser Lys Ile	180	185	190			
Ile Leu Lys Ile Gly Ala Val Val Gly Gly Val Leu Leu Leu Val Val	195	200	205			
Ala Val Ala Gly Val Val Leu Ala Lys Gly Ser Trp Asn Ser Asp Ile	210	215	220			
Thr Leu Leu Thr Ile Ser Phe Ile Phe Pro Leu Ile Gly His Val Thr	225	230	235	240		
Gly Phe Leu Leu Ala Leu Phe Thr His Gln Ser Trp Gln Arg Cys Arg	245	250	255			
Thr Ile Ser Leu Glu Thr Gly Ala Gln Asn Ile Gln Met Cys Ile Thr	260	265	270			
Met Leu Gln Leu Ser Phe Thr Ala Glu His Leu Val Gln Met Leu Ser	275	280	285			
Phe Pro Leu Ala Tyr Gly Leu Phe Gln Leu Ile Asp Gly Phe Leu Ile	290	295	300			
Val Ala Ala Tyr Gln Thr Tyr Lys Arg Arg Leu Lys Asn Lys His Gly	305	310	315	320		
Lys Lys Asn Ser Gly Cys Thr Glu Val Cys His Thr Arg Lys Ser Thr	325	330	335			
Ser Ser Arg Glu Thr Asn Ala Phe Leu Glu Val Asn Glu Glu Gly Ala						

340 345 350
Ile Thr Pro Gly Pro Pro Gly Pro Met Asp Cys His Arg Ala Leu Glu
355 360 365
Pro Val Gly His Ile Thr Ser Cys Glu
370 375

<210> 15
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 15
tctgccatac gagggaaatcg a

21

<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 16
caggagtat ggcacccatc tc

22

<210> 17
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe

<400> 17
tcttcagat agaccaatgc cttcttgg

28

<210> 18
<211> 798
<212> PRT
<213> Human

<400> 18
Met Ala Leu Gln Met Phe Val Thr Tyr Ser Pro Trp Asn Cys Leu Leu
5 10 15
Leu Leu Val Ala Leu Glu Cys Ser Glu Ala Ser Ser Asp Leu Asn Glu
20 25 30
Ser Ala Asn Ser Thr Ala Gln Tyr Ala Ser Asn Ala Trp Phe Ala Ala
35 40 45
Ala Ser Ser Glu Pro Glu Glu Gly Ile Ser Val Phe Glu Leu Asp Tyr
50 55 60
Asp Tyr Val Gln Ile Pro Tyr Glu Val Thr Leu Trp Ile Leu Leu Ala
65 70 75 80
Ser Leu Ala Lys Ile Gly Phe His Leu Tyr His Arg Leu Pro Gly Leu
85 90 95

Met Pro Glu Ser Cys Leu Leu Ile Leu Val Gly Ala Leu Val Gly Gly
 100 105 110
 Ile Ile Phe Gly Thr Asp His Lys Ser Pro Pro Val Met Asp Ser Ser
 115 120 125
 Ile Tyr Phe Leu Tyr Leu Leu Pro Pro Ile Val Leu Glu Gly Gly Tyr
 130 135 140
 Phe Met Pro Thr Arg Pro Phe Phe Glu Asn Ile Gly Ser Ile Leu Trp
 145 150 155 160
 Trp Ala Val Leu Gly Ala Leu Ile Asn Ala Leu Gly Ile Gly Leu Ser
 165 170 175
 Leu Tyr Leu Ile Cys Gln Val Lys Ala Phe Gly Leu Gly Asp Val Asn
 180 185 190
 Leu Leu Gln Asn Leu Leu Phe Gly Ser Leu Ile Ser Ala Val Asp Pro
 195 200 205
 Val Ala Val Leu Ala Val Phe Glu Ala Arg Val Asn Glu Gln Leu
 210 215 220
 Tyr Met Met Ile Phe Gly Glu Ala Leu Leu Asn Asp Gly Ile Thr Val
 225 230 235 240
 Val Leu Tyr Asn Met Leu Ile Ala Phe Thr Lys Met His Lys Phe Glu
 245 250 255
 Asp Ile Glu Thr Val Asp Ile Leu Ala Gly Cys Ala Arg Phe Ile Val
 260 265 270
 Val Gly Leu Gly Gly Val Leu Phe Gly Ile Val Phe Gly Phe Ile Ser
 275 280 285
 Ala Phe Ile Thr Arg Phe Thr Gln Asn Ile Ser Ala Ile Glu Pro Leu
 290 295 300
 Ile Val Phe Met Phe Ser Tyr Leu Ser Tyr Leu Ala Ala Glu Thr Leu
 305 310 315 320
 Tyr Leu Ser Gly Ile Leu Ala Ile Thr Ala Cys Ala Val Thr Met Lys
 325 330 335
 Lys Tyr Val Glu Glu Asn Val Ser Gln Thr Ser Tyr Thr Ile Lys
 340 345 350
 Tyr Phe Met Lys Met Leu Ser Ser Val Ser Glu Thr Leu Ile Phe Ile
 355 360 365
 Phe Met Gly Val Ser Thr Val Gly Lys Asn His Glu Trp Asn Trp Ala
 370 375 380
 Phe Ile Cys Phe Thr Leu Ala Phe Cys Gln Ile Trp Arg Ala Ile Ser
 385 390 395 400
 Val Phe Ala Leu Phe Tyr Ile Ser Asn Gln Phe Arg Thr Phe Pro Phe
 405 410 415
 Ser Ile Lys Asp Gln Cys Ile Ile Phe Tyr Ser Gly Val Arg Gly Ala
 420 425 430
 Gly Ser Phe Ser Leu Ala Phe Leu Leu Pro Leu Ser Leu Phe Pro Arg
 435 440 445
 Lys Lys Met Phe Val Thr Ala Thr Leu Val Val Ile Tyr Phe Thr Val
 450 455 460
 Phe Ile Gln Gly Ile Thr Val Gly Pro Leu Val Arg Tyr Leu Asp Val
 465 470 475 480
 Lys Lys Thr Asn Lys Lys Glu Ser Ile Asn Glu Glu Leu His Ile Arg
 485 490 495
 Leu Met Asp His Leu Lys Ala Gly Ile Glu Asp Val Cys Gly His Trp
 500 505 510
 Ser His Tyr Gln Val Arg Asp Lys Phe Lys Lys Phe Asp His Arg Tyr
 515 520 525
 Leu Arg Lys Ile Leu Ile Arg Lys Asn Leu Pro Lys Ser Ser Ile Val
 530 535 540
 Ser Leu Tyr Lys Lys Leu Glu Met Lys Gln Ala Ile Glu Met Val Glu

545	550	555	560
Thr Gly Ile Leu Ser Ser Thr Ala Phe Ser Ile Pro His Gln Ala Gln			
565	570	575	
Arg Ile Gln Gly Ile Lys Arg Leu Ser Pro Glu Asp Val Glu Ser Ile			
580	585	590	
Arg Asp Ile Leu Thr Ser Asn Met Tyr Gln Val Arg Gln Arg Thr Leu			
595	600	605	
Ser Tyr Asn Lys Tyr Asn Leu Lys Pro Gln Thr Ser Glu Lys Gln Ala			
610	615	620	
Lys Glu Ile Leu Ile Arg Arg Gln Asn Thr Leu Arg Glu Ser Met Arg			
625	630	635	640
Lys Gly His Ser Leu Pro Trp Gly Lys Pro Ala Gly Thr Lys Asn Ile			
645	650	655	
Arg Tyr Leu Ser Tyr Pro Tyr Gly Asn Pro Gln Ser Ala Gly Arg Asp			
660	665	670	
Thr Arg Ala Ala Gly Phe Ser Asp Asp Asp Ser Ser Asp Pro Gly Ser			
675	680	685	
Pro Ser Ile Thr Phe Ser Ala Cys Ser Arg Ile Gly Ser Leu Gln Lys			
690	695	700	
Gln Glu Ala Gln Glu Ile Ile Pro Met Lys Ser Leu His Arg Gly Arg			
705	710	715	720
Lys Ala Phe Ser Phe Gly Tyr Gln Arg Asn Thr Ser Gln Glu Glu Tyr			
725	730	735	
Leu Gly Gly Val Arg Arg Val Ala Leu Arg Pro Lys Pro Leu Phe His			
740	745	750	
Ala Val Asp Glu Glu Gly Glu Ser Gly Gly Glu Ser Glu Gly Lys Ala			
755	760	765	
Ser Leu Val Glu Val Arg Ser Arg Trp Thr Ala Asp His Gly His Ser			
770	775	780	
Arg Asp His His Arg Ser His Ser Pro Leu Leu Gln Lys Lys			
785	790	795	

<210> 19
 <211> 2394
 <212> DNA
 <213> Human

<400> 19

atggctctgc	agatgttcgt	gacttacagt	ccttggatt	gtttgctact	gctagtggct	60
cttgagtgtt	ctgaagcattc	ttctgatttg	aatgaatctg	caaattccac	tgctcagttat	120
gcatctaaccg	cttggtttgc	tgctgccagc	tcagagccag	aggaaggat	atctgttttt	180
gaactggatt	atgactatgt	gcaaattcct	tatgaggtca	ctctctggat	acttcttagca	240
tcccttgcaa	aaataggctt	ccacacctac	cacaggctgc	caggcctcat	gccagaaagc	300
tgcctcctca	tcctgggtgg	ggcgctgggt	ggcgccatca	tcttcggcac	cgaccacaaa	360
tcacccctccgg	tcatggactc	cagcatctac	ttcctgtatc	tcctgccacc	catcgttctg	420
gagggcggct	acttcatgcc	cacccggccc	ttcttgaga	acatcggttc	catcctgtgg	480
tgggcagttat	tggggccct	gatcaacgccc	ttgggcattt	gcctctccct	ctacccatc	540
tgccaggtga	aggcctttgg	cctgggcgac	gtcaacctgc	tgcagaaacct	gctgttcggc	600
agcctgatct	ccgcgttgg	cccagtggcc	gtgctagccg	tgtttgagga	agcgcgcgtg	660
aacgagcagc	tctacatgtat	gatctttggg	gaggcctgc	tcaatgtatgg	cattactgtg	720
gtcttataca	atatgttaat	tgcctttaca	aagatgcata	aatttgaaga	catagaaact	780
gtcgacattt	tggctggatg	tgcccatttc	atcggtgtgg	ggcttggagg	ggtattgttt	840
ggcatcgttt	ttggatttat	ttctgcattt	atcacacgtt	tcactcagaa	tatctctgca	900
attgagccac	tcatcgatctt	catgttcagc	tatttgcattt	acttagctgc	tgaaaccctc	960
tatctctccg	gcatcctggc	aatcacagcc	tgcgcagtaa	caatgaaaaa	gtacgtggaa	1020
gaaaacgtgt	cccagacatc	atacacgacc	atcaagttact	tcatgaagat	gctgaggcagc	1080
gtcagcggaga	ccttgatctt	catcttcattg	ggtgtgtcca	ctgtggccaa	gaatcacagag	1140

tggaaactggg ctttcatctg cttcaccctg gccttctgcc	aaatctggag agccatcagc	1200
gtatttgctc tcttctatata cagtaaccag tttcgactt tccccttctc	catcaaggac	1260
cagtgcatca ttttctacag tgggttgcga ggagctggaa	gtttttcact tgcattttg	1320
cttcctctgt ctcttttcc taggaagaaa atgttgtca ctgctactct	agtagttata	1380
tactttactg tatttattca gggaaatcaca gttggccctc	tggtcaggtt cctggatgtt	1440
aaaaaaacca ataaaaaaga atccatcaat gaagagctc	atattcgtct gatggatcac	1500
ttaaaggctg gaatcgaaga tgggtgtggg cactggagtc	actaccaagt gagagacaag	1560
ttaaagaagt ttgatcatag atacttacgg	aaaatcctca tcagaaagaa cctacccaaa	1620
tcaagcattg tttctttgtca caagaagctg	gaaatgaagc aagccatcga gatgggtggag	1680
actgggatac tgagctctac	agctttctcc ataccccattc agggccagag gatacaagga	1740
atcaaaagac tttccctga	agatgtggag tccataaggg acattctgac atccaacatg	1800
taccaagttc ggcaaaggac	cctgtcctac aacaaataca acctcaaacc ccaaacaagt	1860
gagaagcagg ctaaagagat	tctgatccgc cgccagaaca ccttaaggga gagcatgagg	1920
aaaggtcaca gcctgcctg	gggaaagccg gctggcacca agaatatccg ctacctctcc	1980
tacccctacg ggaatcctca	gtctgcagga agagacacaa gggctgctgg gttctcagat	2040
gatgacagca gtgatccagg	atccccatcc atcacgttca ggcgcgtc tcggataggg	2100
tcacttcaga agcaagaggc	acaagaataataccaatga agagcctaca cagaggaagg	2160
aaggcattca gcttgggta	tcaaagaaac acaaggccaag aagagtactt gggtggagta	2220
aggagggtgg ccttaagacc	caaaccctctg tttcatgcag tggatgagga gggtgagtct	2280
ggaggggaga gtgagggcaa	ggcctcttgc gttgaggttc gggtcgaggtg gacagctgac	2340
catggacaca gcagggacca	tcacaggtcc catagtcctt tgctccaaaaa aaaa	2394

<210> 20

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 20

ccatcctaat acgactcact atagggc

27

<210> 21

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 21

gcatgaagta gccgcctcc agaacga

27

<210> 22

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 22

actcactata gggctcgagc ggc

23

<210> 23

<211> 29

<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 23		
cagaacgatg ggtggcagga gatacagga		29
<210> 24		
<211> 29		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 24		
cgccgcccaga acaccttaag ggagagcat		29
<210> 25		
<211> 27		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 25		
ggctggcacc aagaatatcc gctacct		27
<210> 26		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 26		
tccacacagg ggtgttaggta g		21
<210> 27		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 27		
tgtggacaat aacactat t		21
<210> 28		
<211> 24		
<212> DNA		
<213> Artificial Sequence		

<220>
<223> Primer

<400> 28
aggtaggaga agcccacagg aatg 24

<210> 29
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 29
caataaacact attttttttg gagc 24

<210> 30
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 30
caggaaacag ctatgac 17

<210> 31
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 31
gtaaaacgac ggccag 16

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 32
cccttctttg agaacatcg c 21

<210> 33
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer	
<400> 33	
aatgcccaag gcgttgatc	19
<210> 34	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 34	
acagcctgcg cagtaacaat gaaaaagt	28
<210> 35	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 35	
ttgtacaaga agctggaaat gaa	23
<210> 36	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 36	
acttgatggt cgtgtatgat gtctg	25
<210> 37	
<211> 26	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 37	
ctgggcctga tgggtatgg agaaag	26
<210> 38	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Probe	

<400> 38
ccatcctgtg gtgggcagta ttgggg

25

<210> 39
<211> 511
<212> DNA
<213> Human

<400> 39

agggtggatgc	agtca	cact	tc	taga	aggc	cctc	cccg	actt	ca	gat	gtgt	ggc	aca	cat	ccac	60
acagggggtgt	agg	tagg	aga	ag	ccc	acagg	aat	ggc	tct	cag	atgtt	cg	tgac	tta	ca	120
tccttggaaat	tgtt	tgct	act	tgct	tagt	ggc	tctt	gagt	gt	tctg	aa	gat	ctt	ctg	att	180
gaatgaatct	gcaa	att	cca	ctg	ctc	agta	tg	cat	cta	ac	gtt	gggtt	tg	ctg	ccag	240
ctcagagcca	gag	ga	agg	ga	tat	ctgtt	tga	act	ggat	tat	gact	at	tg	caa	att	300
ttatgagg	tc	act	tc	tgg	tac	tct	tag	at	cc	c	tgc	aaa	at	agg	ct	360
ccacagg	ctg	cc	agg	gc	tca	tg	cc	aga	aa	gt	cc	c	at	cc	tca	420
gggcggc	atc	t	tcg	gg	ca	cc	gac	caa	atc	ac	c	tg	act	gg	act	480
cttcctgtat	ct	c	c	tc	gt	at	cc	at	cg	tt	t	g				511

<210> 40

<211> 462

<212> DNA

<213> Human

<400> 40

ggctggcacc	aagaatatcc	gctacctctc	ctacccctac	ggaaatcctc	agtctgcagg	60
aagagacaca	agggctgctg	ggttctcaga	tgatgacagc	agtgtatccag	gatccccatc	120
catcacgttc	agcgcatgct	ctcgatagg	gtcacttcag	aagcaagagg	cacaagaaat	180
aataccaatg	aagagctac	acagaggaag	gaaggcattc	agctttggtt	atcaaagaaa	240
cacaagccaa	gaagagtact	tgggtggagt	aaggagggtg	gccttaagac	ccaaacctct	300
gtttcatgca	gtggatgagg	agggtgagtc	tggaggggag	agtgagggca	aggcctctt	360
ggttgaggtt	cggtcgaggt	ggacagctga	ccatggacac	agcagggacc	atcacaggtc	420
ccatagtctt	ttgctccaaa	aaaaatagtg	ttattgtcca	ca		462

<210> 41

<211> 2426

<212> DNA

<213> Human

<400> 41

aggtaggaga	agccccacagg	aatggctctg	catagatggcg	tgactttacag	tccttggaaat	60
tgtttgtcac	tgcttagtggc	tcttgagtgt	tctgaagcat	cttctgattt	gaatgaatct	120
gcaaattcca	ctgctcagta	tgcatactaa	gcttgggttt	ctgctgccag	ctcagagccaa	180
gaggaaggga	tatctgtttt	tgaactggat	tatgactatg	tgcaaattcc	ttatgagggtc	240
actctctggaa	tacttcttagc	atcccttgca	aaaataggct	tccacaccta	ccacaggctg	300
ccaggccctca	tgccagaaaag	ctgcctccct	atcctgggtgg	gggcgctgg	gggcggcattc	360
atcttcggca	ccgaccacaa	atcacctccg	gtcatggact	ccagcatcta	cttcctgtat	420
ctcctgccac	ccatcggtct	ggagggcgcc	tacttcatgc	ccacccggcc	cttctttgag	480
aacatcggt	ccatccctgtg	gtgggcagta	ttgggggccc	tgatcaacgc	cttgggcatt	540
ggcctctccc	tctacctcat	ctgccaggtg	aaggcctttg	gcctgggcga	cgtcaacctg	600
ctgcagaacc	tgctgttcgg	cagcctgatc	tccggcgtgg	acccagtggc	cgtgctagcc	660
gtgtttgagg	aagcgccggt	gaacgagcag	ctctacatga	tgatctttgg	ggaggccctg	720
ctcaatgtatg	gcattactgt	ggtcttatac	aatatgttaa	ttgcctttac	aaagatgcatt	780
aaatttgaag	acatagaaac	tgtcgacatt	ttggctggat	gtgcccggatt	catcggttg	840
gggcttggag	gggttattgtt	tggcatcggt	tttggattta	tttctgcatt	tatcacacgt	900
ttcactcaga	atatctctgc	aattgagcca	ctcatcgct	tcatgttcag	ctattgtct	960
tacttagctg	ctgaaaccct	ctatctctcc	qgcacatcctgg	caatcacacgc	ctgcgcacgt	1020

acaataaaaa agtacgtgga agaaaacgtg tcccagacat catacacgac catcaagtac 1080
ttcatgaaga tgctgagcag cgtcagcag accttgatct tcatttcat gggtgtgtcc 1140
actgtggca agaatcacga gtggaactgg gccttcatct gcttcaccct ggcctctgc 1200
caaatctgga gagccatcag cgtatttgct ctcttctata tcagtaacca gtttcggact 1260
ttcccctct ccatcaagga ccagtgcac attttctaca gtgggttgc aggagctgga 1320
agttttcac ttgcatttt gcttcctctg tctctttc ctaggaagaa aatgtttgtc 1380
actgctactc tagtagttat atactttact gtatttattc agggaatcac agttggccct 1440
ctggtcaggt acctggatgt taaaaaaacc aataaaaaag aatccatcaa tgaagagctt 1500
catattcgtc tgatggatca cttaaaggct ggaatcgaag atgtgtgtgg gcactggag 1560
caactaccaag tgagagacaa gtttagaag tttgatcata gatacttacg gaaaatcctc 1620
atcagaaaaga acctacccaa atcaaggcatt gtttcttgc acaagaagct gaaaaatgaag 1680
caagccatcg agatggtgga gactgggata ctgagctcta cagtttctc catacccat 1740
caggcccaga ggatacaagg aatcaaaaaga ctttcccctg aagatgtgg gtccataagg 1800
gacattctga catccaacat gtaccaagtt cggcaaaagg ccctgtccta caacaaatac 1860
aacctcaaac cccaaacaag tgagaagcag gctaaagaga ttctgatccg ccgccccaaac 1920
acctaaggag agagcatgag gaaaggtcac agcctgccc ggggaaagcc ggctggcacc 1980
aagaatatcc gctacctctc ctacccctac gggaaatcctc agtctgcagg aagagacaca 2040
agggctgctg ggttctcaga tgatgacagc agtgatccag gatccccatc catcacgttc 2100
agcgcatgct ctcggatagg gtcacttcag aagcaagagg cacaagaaat aataccaatg 2160
aagagcctac acagaggaag gaaggcattc agctttggtt atcaaagaaa cacaagccaa 2220
gaagagtaact tgggtggagt aaggagggtg gccttaagac ccaaaccctct gtttcatgca 2280
gtggatgagg agggtgagtc tggagggggag agtgaggggca aggcctctt gtttgagg 2340
cggtcgaggt ggacagctga ccatggacac agcagggacc atcacaggtc ccatagtcct 2400
ttgctccaaa aaaaatagtg ttattg 2426

<210> 42
<211> 1148
<212> PRT
<213> Human

<400> 42
Met Ser Arg Ala Thr Ser Val Gly Asp Gln Leu Glu Ala Pro Ala Arg
5 10 15
Thr Ile Tyr Leu Asn Gln Pro His Leu Asn Lys Phe Arg Asp Asn Gln
20 25 30
Ile Ser Thr Ala Lys Tyr Ser Val Leu Thr Phe Leu Pro Arg Phe Leu
35 40 45
Tyr Glu Gln Ile Arg Arg Ala Ala Asn Ala Phe Phe Leu Phe Ile Ala
50 55 60
Leu Leu Gln Gln Ile Pro Asp Val Ser Pro Thr Gly Arg Tyr Thr Thr
65 70 75 80
Leu Val Pro Leu Ile Ile Leu Thr Ile Ala Gly Ile Lys Glu Ile
85 90 95
Val Glu Asp Phe Lys Arg His Lys Ala Asp Asn Ala Val Asn Lys Lys
100 105 110
Lys Thr Ile Val Leu Arg Asn Gly Met Trp His Thr Ile Met Trp Lys
115 120 125
Glu Val Ala Val Gly Asp Ile Val Lys Val Val Asn Gly Gln Tyr Leu
130 135 140
Pro Ala Asp Val Val Leu Leu Ser Ser Ser Glu Pro Gln Ala Met Cys
145 150 155 160
Tyr Val Glu Thr Ala Asn Leu Asp Gly Glu Thr Asn Leu Lys Ile Arg
165 170 175
Gln Gly Leu Ser His Thr Ala Asp Met Gln Thr Arg Glu Val Leu Met
180 185 190
Lys Leu Ser Gly Thr Ile Glu Cys Glu Gly Pro Asn Arg His Leu Tyr
195 200 205

Asp Phe Thr Gly Asn Leu Asn Leu Asp Gly Lys Ser Leu Val Ala Leu
 210 215 220
 Gly Pro Asp Gln Ile Leu Leu Arg Gly Thr Gln Leu Arg Asn Thr Gln
 225 230 235 240
 Trp Val Phe Gly Ile Val Val Tyr Thr Gly His Asp Thr Lys Leu Met
 245 250 255
 Gln Asn Ser Thr Lys Ala Pro Leu Lys Arg Ser Asn Val Glu Lys Val
 260 265 270
 Thr Asn Val Gln Ile Leu Val Leu Phe Gly Ile Leu Leu Val Met Ala
 275 280 285
 Leu Val Ser Ser Ala Gly Ala Leu Tyr Trp Asn Arg Ser His Gly Glu
 290 295 300
 Lys Asn Trp Tyr Ile Lys Lys Met Asp Thr Thr Ser Asp Asn Phe Gly
 305 310 315 320
 Tyr Asn Leu Leu Thr Phe Ile Ile Leu Tyr Asn Asn Leu Ile Pro Ile
 325 330 335
 Ser Leu Leu Val Thr Leu Glu Val Val Lys Tyr Thr Gln Ala Leu Phe
 340 345 350
 Ile Asn Trp Asp Thr Asp Met Tyr Tyr Ile Gly Asn Asp Thr Pro Ala
 355 360 365
 Met Ala Arg Thr Ser Asn Leu Asn Glu Glu Leu Gly Gln Val Lys Tyr
 370 375 380
 Leu Phe Ser Asp Lys Thr Gly Thr Leu Thr Cys Asn Ile Met Asn Phe
 385 390 395 400
 Lys Lys Cys Ser Ile Ala Gly Val Thr Tyr Gly His Phe Pro Glu Leu
 405 410 415
 Ala Arg Glu Pro Ser Ser Asp Asp Phe Cys Arg Met Pro Pro Pro Cys
 420 425 430
 Ser Asp Ser Cys Asp Phe Asp Asp Pro Arg Leu Leu Lys Asn Ile Glu
 435 440 445
 Asp Arg His Pro Thr Ala Pro Cys Ile Gln Glu Phe Leu Thr Leu Leu
 450 455 460
 Ala Val Cys His Thr Val Val Pro Glu Lys Asp Gly Asp Asn Ile Ile
 465 470 475 480
 Tyr Gln Ala Ser Ser Pro Asp Glu Ala Ala Leu Val Lys Gly Ala Lys
 485 490 495
 Lys Leu Gly Phe Val Phe Thr Ala Arg Thr Pro Phe Ser Val Ile Ile
 500 505 510
 Glu Ala Met Gly Gln Glu Gln Thr Phe Gly Ile Leu Asn Val Leu Glu
 515 520 525
 Phe Ser Ser Asp Arg Lys Arg Met Ser Val Ile Val Arg Thr Pro Ser
 530 535 540
 Gly Arg Leu Arg Leu Tyr Cys Lys Gly Ala Asp Asn Val Ile Phe Glu
 545 550 555 560
 Arg Leu Ser Lys Asp Ser Lys Tyr Met Glu Glu Thr Leu Cys His Leu
 565 570 575
 Glu Tyr Phe Ala Thr Glu Gly Leu Arg Thr Leu Cys Val Ala Tyr Ala
 580 585 590
 Asp Leu Ser Glu Asn Glu Tyr Glu Glu Trp Leu Lys Val Tyr Gln Glu
 595 600 605
 Ala Ser Thr Ile Leu Lys Asp Arg Ala Gln Arg Leu Glu Glu Cys Tyr
 610 615 620
 Glu Ile Ile Glu Lys Asn Leu Leu Leu Gly Ala Thr Ala Ile Glu
 625 630 635 640
 Asp Arg Leu Gln Ala Gly Val Pro Glu Thr Ile Ala Thr Leu Leu Lys
 645 650 655
 Ala Glu Ile Lys Ile Trp Val Leu Thr Gly Asp Lys Gln Glu Thr Ala

660	665	670
Ile Asn Ile Gly Tyr Ser Cys Arg Leu Val Ser Gln Asn Met Ala Leu		
675	680	685
Ile Leu Leu Lys Glu Asp Ser Leu Asp Ala Thr Arg Ala Ala Ile Thr		
690	695	700
Gln His Cys Thr Asp Leu Gly Asn Leu Leu Gly Lys Glu Asn Asp Val		
705	710	715
Ala Leu Ile Ile Asp Gly His Thr Leu Lys Tyr Ala Leu Ser Phe Glu		
725	730	735
Val Arg Arg Ser Phe Leu Asp Leu Ala Leu Ser Cys Lys Ala Val Ile		
740	745	750
Cys Cys Arg Val Ser Pro Leu Gln Lys Ser Glu Ile Val Asp Val Val		
755	760	765
Lys Lys Arg Val Lys Ala Ile Thr Leu Ala Ile Gly Asp Gly Ala Asn		
770	775	780
Asp Val Gly Met Ile Gln Thr Ala His Val Gly Val Gly Ile Ser Gly		
785	790	795
Asn Glu Gly Met Gln Ala Thr Asn Asn Ser Asp Tyr Ala Ile Ala Gln		
805	810	815
Phe Ser Tyr Leu Glu Lys Leu Leu Leu Val His Gly Ala Trp Ser Tyr		
820	825	830
Asn Arg Val Thr Lys Cys Ile Leu Tyr Cys Phe Tyr Lys Asn Val Val		
835	840	845
Leu Tyr Ile Ile Glu Leu Trp Phe Ala Phe Val Asn Gly Phe Ser Gly		
850	855	860
Gln Ile Leu Phe Glu Arg Trp Cys Ile Gly Leu Tyr Asn Val Ile Phe		
865	870	875
Thr Ala Leu Pro Pro Phe Thr Leu Gly Ile Phe Glu Arg Ser Cys Thr		
885	890	895
Gln Glu Ser Met Leu Arg Phe Pro Gln Leu Tyr Lys Ile Thr Gln Asn		
900	905	910
Gly Glu Gly Phe Asn Thr Lys Val Phe Trp Gly His Cys Ile Asn Ala		
915	920	925
Leu Val His Ser Leu Ile Leu Phe Trp Phe Pro Met Lys Ala Leu Glu		
930	935	940
His Asp Thr Val Leu Thr Ser Gly His Ala Thr Asp Tyr Leu Phe Val		
945	950	955
Gly Asn Ile Val Tyr Thr Tyr Val Val Val Thr Val Cys Leu Lys Ala		
965	970	975
Gly Leu Glu Thr Thr Ala Trp Thr Lys Phe Ser His Leu Ala Val Trp		
980	985	990
Gly Ser Met Leu Thr Trp Leu Val Phe Phe Gly Ile Tyr Ser Thr Ile		
995	1000	1005
Trp Pro Thr Ile Pro Ile Ala Pro Asp Met Arg Gly Gln Ala Thr Met		
1010	1015	1020
Val Leu Ser Ser Ala His Phe Trp Leu Gly Leu Phe Leu Val Pro Thr		
1025	1030	1035
Ala Cys Leu Ile Glu Asp Val Ala Trp Arg Ala Ala Lys His Thr Cys		
1045	1050	1055
Lys Lys Thr Leu Leu Glu Val Gln Glu Leu Glu Thr Lys Ser Arg		
1060	1065	1070
Val Leu Gly Lys Ala Val Leu Arg Asp Ser Asn Gly Lys Arg Leu Asn		
1075	1080	1085
Glu Arg Asp Arg Leu Ile Lys Arg Leu Gly Arg Lys Thr Pro Pro Thr		
1090	1095	1100
Leu Phe Arg Gly Ser Ser Leu Gln Gln Gly Val Pro His Gly Tyr Ala		
1105	1110	1115
		1120

Phe	Ser	Gln	Glu	Glu	His	Gly	Ala	Val	Ser	Gln	Glu	Glu	Val	Ile	Arg
							1125			1130				1135	
Ala	Tyr	Asp	Thr	Thr	Lys	Lys	Lys	Ser	Arg	Lys	Lys				
							1140			1145					

<210> 43
 <211> 3444
 <212> DNA
 <213> Human

<400> 43

atgtccggg	ccacgtctgt	tggagaccag	ctggaggcac	ccgcccgcac	catttacctc	60
aaccaaccgc	atctcaacaa	attccgcac	aaccagatca	gtacggccaa	gtacagcgtg	120
ttgacatttc	tacctcgatt	cttgtatgag	cagattagaa	gagctgtcaa	tgccttcttt	180
ctcttcattg	ccttattaca	gcaaattcca	gatgtatctc	caacaggaag	atataccacc	240
ctgggtccat	tgatcattat	tttaacaatt	gcaggcatca	aagagattgt	agaagatttt	300
aaggcgcacaca	aggcagacaaa	tgcagttAAC	aaaaagaaaa	caatagtgtt	aagaatgggt	360
atgtggcata	ccattatgtg	gaaagaggtg	gcagtggag	acattgtgaa	ggtcgtcaat	420
ggcagttatc	ttccagcaga	tgtggcctg	ctgtcatcca	gtgaacctca	ggcaatgtgt	480
tatgtgaaa	cagctaatact	ggatggggag	acgaacctta	aaatacgtca	gggtttgagt	540
cacactgctg	acatgcaaacc	acgtgaagtt	ctgatgaagt	tatctggAAC	tatagagtgt	600
gaagggccca	accgccaccc	ctatgacttc	actggaaact	tgaacttaga	tggaaaagc	660
cttggcggcc	ttgggcctga	ccagatctta	ttaagaggtt	cacagcttag	aaatactcag	720
tgggtctttg	gcatagttgt	ttatactggA	cacgacacca	aactcatgca	gaattcaacc	780
aaagcgccctc	tcaagagatc	aaatgtttag	aaggtgacta	acgtgcagat	cctgggtttg	840
tttggcatcc	tcttggtcat	ggccttggtg	agctcggcgg	gggcctgtt	ctggAACAGG	900
tctcatggtg	aaaagaactg	gtacatcaag	aagatggaca	ccacctcaga	taattttggA	960
tacaacctac	tgacgttcat	catcttatac	aacaatctta	tttccatca	tctgttggtg	1020
actcttgagg	ttgtgaagta	tactcaagcc	cttttcataa	actggggacac	agatatgtat	1080
tatataggaa	atgacactcc	tgccatggcc	aggacatcaa	accttaatga	agagottggg	1140
caggtgaaat	atctctttc	tgacaaagact	ggaacgctta	catgcaataat	catgaacttt	1200
aagaagtgcA	gcattgggg	agtaacctat	ggtcacttcc	cagaattggc	aagagagccg	1260
tcttcagatg	acttctgtcg	gatgcctcct	ccctgtatgt	attcctgtga	ctttgtatgac	1320
cccaggctgt	tgaagaacat	tgaggatcgc	catcccacag	ccccttgcatt	tcaggagttc	1380
ctcacccctc	tggccgtgt	ccacacgggtt	gttccctgaga	aggatggaga	taacatcatc	1440
taccaggcct	tttccccaga	tgaagctgt	tttgggttttt	gagctaaaaa	gctgggcttt	1500
gtcttcacag	ccagaacacc	attctcagtc	atcatagaag	cgatggaca	ggaacaaaca	1560
ttcggaaatcc	ttaatgtcct	ggaattttct	agtgcacagaa	aaagaatgtc	tgtaatttttt	1620
cgaactcctt	caggacgact	tcggctttac	tgtaaagggg	ctgataatgt	gatttttgag	1680
agactttcaa	aagactcaaa	atatatggag	gaaacattat	gcccatttgg	atactttggc	1740
acggaaggct	tgcggactct	ctgtgtggct	tatgctgatc	tctctgagaa	tgagtatgag	1800
gagtggctga	aagtctatca	ggaagccagc	accatattga	aggacagagc	tcaacgggtt	1860
gaagagtgtt	acgagatcat	tgagaagaat	ttgctgtac	tttggagccac	agccatagaa	1920
gatcgccctc	aagcaggagt	tccagaaacc	atcgcaacac	tgttgaaggc	agaaattttaa	1980
atatgggtgt	tgacaggaga	caaacaagaa	actgcgatta	atatagggtt	ttcctgccc	2040
tttgtatcgc	agaatatggc	ccttataccta	tttgaaggagg	actctttgg	tgccacaagg	2100
gcagccatta	ctcagcactg	cactgacctt	gggaatttgc	tgggcaaggg	aatgacgtg	2160
gccctcatca	tcgatggcca	caccctgaag	tacgcgtct	ccttcgaagt	ccggaggagt	2220
ttcctggatt	tggcactctc	gtgcaaagcg	gtcatatgt	gcagagtgtc	tcctctgcag	2280
aagtctgaga	tagtggatgt	ggtgaagaag	cgggtgaagg	ccatcaccc	cgccatcgga	2340
gacggcgcca	acgatgtcg	gatgatccag	acagccacg	tgggtgtgg	aatcagtggg	2400
aatgaaggca	tgcaggccac	caacaactcg	gattacgca	tgcacagtt	ttcctactta	2460
gagaagcttc	tgttggttca	tggagcctgg	agctacaacc	gggtgaccaa	gtgcacattt	2520
tactgcttct	ataagaacgt	ggtccgttat	attatttgagc	tttgggttc	ttttgttaat	2580
ggattttctg	ggcagatttt	atttgaacgt	tttggcatcg	gcctgtacaa	tgtgattttc	2640
accgctttgc	cgcccttcac	tctggaaatc	tttgagaggt	cttgcactca	ggagagcatg	2700
ctcaggtttc	cccaagctcta	caaaatcacc	cagaatggcg	aaggcttcaa	cacaaggatt	2760

ttctgggtc actgcatcaa cgccctggc cactccctca tcctcttctg gtttcccatg	2820
aaagctctgg agcatgatac tgggttgaca agtggtcatg ctaccgacta ttatgtt	2880
ggaaatattt tttacacata tgggttggtt actgtttgtc tgaaagctgg ttggagacc	2940
acagcttggc ctaaattcag tcatactggct gtctgggaa gcatgctgac ctggctgggt	3000
tttttggca tctactcgac catctggccc accattccca ttgctccaga tatgagagga	3060
caggcaacta tggtcctgag ctccgcacac ttctgggtgg gattatttctt gtttccact	3120
gcctgttga ttgaagatgt ggcattggaga gcagccaagc acacctgcaa aaagacattt	3180
ctggaggagg tgcaggagct ggaaacccaag tctcgagtcc tggaaaagc ggtgctgcgg	3240
gatagcaatg gaaagaggctt gaaacggcgc gaccgcctga tcaagaggctt gggccggaa	3300
acgccccca cgctgttccg gggcagctcc ctgcagcagg gcgtcccgca tggatgtctt	3360
ttttctcaag aagaacacgg agctgttagt caggaagaag tcataccgtgc ttatgacacc	3420
accaaaaaga aatccaggaa gaaa	3444

<210> 44
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 44
ctttggctta aagaaggca gag

23

<210> 45
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 45
aggttgcga ggaaatatgt aact

24

<210> 46
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 46
atttaggtga cactata

18

<210> 47
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 47
aatacgactc actataggg

19

<210> 48
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 48
tcaagaagat ggacaccacc tcag 24

<210> 49
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 49
gccagttat gaaaaggct tgag 24

<210> 50
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 50
ttcgccagga ccacaccagc aact 24

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 51
tcgcagttc ttgttgtct cctg 24

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 52
acctcaggca atgtgttatg 20

<210> 53
<211> 20

<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 53		
agcgatggga caggaacaaa	20	
<210> 54		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 54		
agttgctggt gtggtcctgg cgaa	24	
<210> 55		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 55		
ctgggcagat tttatggaa	20	
<210> 56		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 56		
cctgagctcc gcacacattct	20	
<210> 57		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 57		
cataaacat tgcctgaggt	20	
<210> 58		
<211> 20		
<212> DNA		
<213> Artificial Sequence		

<220>
 <223> Primer

 <400> 58
 ttcaaataaa atctgcccag 20

 <210> 59
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 59
 agaagtgtgc ggagctcagg 20

 <210> 60
 <211> 3643
 <212> DNA
 <213> Human

 <400> 60
 ctttgggcta taagaaggca gaggatgaga tgtcccgcc cacgtctgtt ggagaccagc 60
 tggaggcacc cgcccgaccattcacca accaaccgca tctcaacaaa ttccgcgaca 120
 accagatcg tacggccaag tacagcgtgt tgacatttct acctcgattt ttgtatgagc 180
 agattagaag agctgctaatt gccttcttc tcttcattgc cttattacag caaatccag 240
 atgtatctcc aacaggaaga tataccaccc tggtgccatt gatcattatt ttaacaattt 300
 caggcatcaa agagattgtt gaagattttt agcgacacaa ggcagacaaat gcagtaaca 360
 aaaagaaaaac aatagtgtt aaaaaatggta tgtggcatac cattatgtgg aaagagggtgg 420
 cagtggaga cattgtgaag gtcgtcaatg ggcagtatct tccagcagat gtggcctgc 480
 tgtcatccag tgaacctcag gcaatgtgtt atgttggaaac agctaattctg gatggggaga 540
 cgaaccttaa aatacgtcag ggtttgagtc acactgctga catgcaaaca cgtgaagttc 600
 ttagtgaagtt atctggaaact atagagtgtt aagggcccaa cgcgcaccc tatgacttca 660
 ctggaaactt gaacttagat gggaaaagcc ttgttgcct tgggcctgac cagatcttat 720
 taagaggtac acagcttaga aatactcgtt gggtcttgg catagttgtt tatactggac 780
 acgacaccaa actcatgcag aattcaacca aagcgccctt caagagatca aatgttggaa 840
 aggtgactaa cgtcagatc ctgggtttgtt ttggcatcct ctggtcatg gccttggta 900
 gctcggcggg ggcctgtac tggAACAGGTt ctcattgttga aaagaactgg tacatcaaga 960
 agatggacac cacctcagat aattttggat acaacctact gacgttcatc atcttataca 1020
 acaatcttat tcccatcgtt ctgttggta ctcttgaggat tggtaagttt actcaagccc 1080
 ttttcataaa ctgggacaca gatatgtt atataggaaa tgacactcctt gccatggcca 1140
 ggacatcaaa ccttaatgaa gagcttggc aggtggaaata tctctttctt gacaagactg 1200
 gaacgcttac atgcaatatc atgaacttta agaagtgcag cattgcccga gtaacctatg 1260
 gtcacttccc agaattggca agagagccgtt ctccagatgtt ctctgtcgg atgcctccctc 1320
 cctgtgttgc ttcctgttgc tttgtatgacc ccaggctgtt gaagaacattt gaggatcgcc 1380
 atccccacagc cccttgcattt caggagtcc tcacccttctt ggcctgtgc cacacgggtt 1440
 ttccttgagaa ggatggagat aacatcatctt accaggccctt ttccccagat gaaatgtc 1500
 tggtaaaagg agctaaaaag ctgggcttttgc ttttcacacgc cagaacacca ttctcgttca 1560
 tcatagaagc gatgggacag gaacaaacat tcgaaatcctt taatgtcctt gaaatttctt 1620
 gtgacagaaa aagaatgtt gtaattgttcc gaaatccttcc agacgactt cggctttact 1680
 gtaaaaggcc tgataatgtt atttttgaga gactttcaaa agactcaaa tatatggagg 1740
 aaacattatg ccatctggaa tactttgcac cggaaaggctt gcccgtctc tggatggctt 1800
 atgctgatctt ctctgagaat gatgttggg agtggctt gaaatctatca gaaatccagca 1860
 ccatattgaa ggacagagctt caacgggttgg aagatgttta cgagatcattt gagaagaattt 1920
 tgctgctactt tggagccaca gccatagaag atgccttca agcaggagttt ccagaaacca 1980

tcgcaacact	gttgaaggca	gaaattaaaa	tatgggtt	gacaggagac	aaacaagaaa	2040
ctgcgattaa	tatagggtat	tcctgcccgt	tggtatcgca	gaatatggcc	cttattcctat	2100
tgaaggagga	ctctttggat	gccacaaggg	cagccattac	tcagcaactgc	actgacccctg	2160
ggaatttgc	gggcaaggaa	aatgacgtgg	ccctcatcat	cgatggccac	accctgaagt	2220
acgcgctctc	cttcgaagtc	cgaggaggtt	tcctggattt	ggcactctcg	tgcaaagcgg	2280
tcatatgctg	cagagtgtct	cctctgcaga	agtctgagat	agtggatgtg	gtgaagaagc	2340
gggtgaaggc	catcaccctc	gccatcgagg	acggcgccaa	cgatgtcggg	atgatccaga	2400
cagccccacgt	gggtgtggga	atcagtggga	atgaaggcat	gcaggccacc	aacaactcgg	2460
attacgccat	cgcacagttt	tcctacttag	agaagcttct	gttggttcat	ggagcctgga	2520
gctacaaccg	ggtgaccaag	tgcatcttgc	actgcttcta	taagaacgtg	gtcctgtata	2580
ttattgagct	ttggttcgcc	tttgttaatg	gattttctgg	gcagatttta	tttgaacgtt	2640
ggtgcatacg	cctgtacaat	gtgatttca	ccgcttgc	gcccttact	ctggaaatct	2700
ttgagaggc	ttgcacitcag	gagagcatgc	tcaggttcc	ccagctctac	aaaatcaccc	2760
agaatggcga	aggcttcaac	acaaaggttt	tctgggtca	ctgcatcaac	gccttggtcc	2820
actccctcat	cctcttctgg	tttcccattga	aagctctgga	gcatgatact	gtgttgacaa	2880
gtggcatgc	taccgactat	ttatttgg	gaaatattgt	ttacacat	gttggttta	2940
ctgtttgtct	gaaagctgg	ttggagacca	cagcttggac	taaattcagt	catctggctg	3000
tctgggaag	catgctgacc	tggctgggt	tttttggcat	ctactcgacc	atctggccca	3060
ccattccat	tgctccagat	atgagaggac	aggcaactat	ggtcctgagc	tccgcacact	3120
tctgggtggg	attatttctg	gttcctactg	cctgtttgt	tgaagatgtg	gcatggagag	3180
cagccaagca	cacccgtcaaa	aagacattgc	tggaggaggt	gcaggagctg	gaaaccaagt	3240
ctcgagtcct	ggggaaagcg	gtgctgcggg	atagcaatgg	aaagaggctg	aacgagcgcg	3300
accgcctgat	caagaggctg	ggccggaaga	cgccccgac	gctgttccgg	ggcagctccc	3360
tgcagcagg	cgtcccgcat	ggtatgctt	tttctcaaga	agaacacgg	gctgttagtc	3420
aggaagaagt	catccgtgct	tatgacacca	ccaaaaagaa	atccaggaag	aaataagaca	3480
tgaattttcc	tgactgatct	taggaaagag	attcagttt	ttgcacccag	tgttaacaca	3540
tctttgtcag	agaagactgg	cgtcagcagc	aaaaacacca	gaaaaacacat	ttctgtggcc	3600
ttagccaagc	agtttggtag	ttacatattc	cctcgcaaaac	cttca		3643

<210> 61
 <211> 3643
 <212> DNA
 <213> Human

<400> 61						
ctttggctta	taagaaggca	gaggatgaga	tgtccgggc	cacgtctgtt	ggagaccagc	60
tggaggcacc	cgcggcacc	attacctca	accaacccga	tctcaacaaa	ttccgcgaca	120
accagatcg	tacggccaag	tacagcgtgt	tgacatttct	acctcgattt	ttgtatgagc	180
agattagaag	agctgcta	atgcctttc	tcttattgc	cttattacag	caaattccag	240
atgtatctcc	aacaggaaga	tataccaccc	tggtgcatt	gatcattatt	ttaacaattg	300
caggcatcaa	agagattgt	gaagattta	agcgacacaa	ggcagacaaat	gcagtaaca	360
aaaagaaaac	aatagtgtt	agaaaatggta	tgtggcatac	cattatgtgg	aaagaggtgg	420
cagtggaga	cattgtgaag	gtcgtcaatg	ggcagtatct	tccagcagat	gtgttccctgc	480
tgtcatccag	tgaacctcag	gcaatgtgtt	atgttggaaac	agctaatctg	gatggggaga	540
cgaaccttaa	aatacgtcag	ggtttgagtc	acactgctga	catgcaaaca	cgtgaagttc	600
tgtatgaagtt	atctggaaact	atagagtgt	aaggcccaa	ccgcccaccc	tatgacttca	660
ctggaaactt	gaacttagat	ggggaaaagcc	ttgttgcct	tggccctgac	cagatcttat	720
taagaggtac	acagcttaga	aatactcagt	gggtctttgg	catagttgtt	tatactggac	780
acgacaccaa	actcatgcag	aattcaacca	aagcgctct	caagagatca	aatgttgaga	840
aggtgactaa	cgtcagatc	ctgggtttgt	ttggcatcct	cttggatcatg	gccttggta	900
gctcggcggg	ggccctgtac	tggaacaggt	ctcatggtga	aaagaactgg	tacatcaaga	960
agatggacac	cacccatcgat	aattttggat	acaacctact	gacgttcatc	atcttataca	1020
acaatcttat	tcccatcagt	ctgttggtga	ctcttggat	tgtgaagttat	actcaagccc	1080
ttttcataaa	ctgggacaca	gatatgttatt	atataggaaa	tgacactcct	gccatggcca	1140
ggacatcaa	ccttaatgaa	gagttgggc	aggtgaaata	tctctttct	gacaagactg	1200
gaacgcttac	atgcaatatac	atgaaactta	agaagtgcag	cattgcccgg	gtaaacat	1260
gtcacttccc	agaattggca	agagagccgt	cttcagatga	cttctgtcg	atgcctccctc	1320

cctgttgtga	ttcctgtgac	tttgcgttgc	ccaggctgtt	gaagaacatt	gaggatcgcc	1380
atccccacgc	cccttgcatt	caggagttcc	tcacccttct	ggccgtgtc	cacacgggttgc	1440
ttcctgagaa	ggatggagat	aacatcatct	accaggcctc	ttccccagat	gaagctgtctt	1500
tggtaaaagg	agctaaaaag	ctgggctttg	tcttcacagc	cagaacacca	ttctcagtca	1560
tcatagaagc	gatgggacag	gaacaaacat	tcggaatcct	taatgtcctg	gaattttctta	1620
gtgacagaaa	aagaatgtct	gtaattgttc	gaactccttc	aggacgactt	cggctttact	1680
gtaaaggggc	tgataatgt	attttgaga	gactttcaaa	agactcaaaa	tatatggagg	1740
aaacattatg	ccatctggaa	tactttgcca	cggaaggctt	gcggactctc	tgtgtggctt	1800
atgctgatct	ctctgagaat	gagtatgagg	agtggctgaa	agtctatcag	gaagccagca	1860
ccatattgaa	ggacagagct	caacgggtgg	aagagtgtta	cgagatcatt	gagaagaatt	1920
tgctgctact	tggagccaca	gccatagaag	atgccttca	agcaggagtt	ccagaaaacca	1980
tcgcaacact	gttgaaggca	gaaattaaaa	tatgggtgtt	gacaggagac	aaacaagaaaa	2040
ctgcgattaa	tataggttat	tcctgcgtat	tggtatcgca	gaatatggcc	cttattcctat	2100
tgaaggagga	ctctttggat	gccacaagggg	cagccattac	ttagcactgc	actgaccttgc	2160
ggaatttgc	gggcaaggaa	aatgacgtgg	ccctcatcat	cgatggccac	accctgaagt	2220
acgcgctctc	cttcgaagtc	cggaggagtt	tcctggattt	ggcactctcg	tgcaaagcgg	2280
tcatatgctg	cagagtgtct	cctctgcaga	agtctgagat	agtggatgtg	gtgaagaagc	2340
gggtgaaggc	catcacccctc	gccatcgagg	acggcgccaa	cgatgtcggg	atgatccaga	2400
cagcccacgt	gggtgtggga	atcagtgggaa	atgaaggcat	gcaggccacc	aacaactcgg	2460
attacgccat	cgcacagttt	tcctacttag	agaagcttct	gttggttcat	ggagcctgga	2520
gctacaaccg	ggtgaccaag	tgcattttgt	actgcttcta	taagaacgtg	gtcctgtata	2580
ttatttgagct	ttggttcgcc	tttggtaatg	gattttctgg	gcagatttt	tttgaacgtt	2640
ggtgcatcg	cctgtacaat	gtgatttca	ccgcttgc	gcccttca	ctggaaatct	2700
ttgagaggtc	ttgcactcag	gagagcatgc	tcaggttcc	ccagctctac	aaaatcaccc	2760
agaatggcga	aggcttcaac	acaaagggtt	tctgggtca	ctgcatcaac	gccttggtcc	2820
actccctcat	cctttctgg	tttcccatga	aagctctgga	gcatgatact	gtgttgcacaa	2880
gtggtcatgc	taccgactat	ttatttgttgc	gaaatattgt	ttacacat	gttgggttta	2940
ctgtttgtct	gaaagcttgc	ttggagacca	cagcttggac	taaatttgc	catctggctg	3000
tctgggaag	catgtcgacc	tggctgggt	ttttggcat	ctactcgacc	atctggccca	3060
ccattcccat	tgctccagat	atgagaggac	aggcaactat	ggtcctgagc	tccgcacact	3120
tctgggtggg	attatttctg	gttcctactg	cctgtttgt	tgaagatgtg	gcatggagag	3180
cagccaagca	cacctgcaaa	aagacattgc	tggaggaggt	gcaggagctg	gaaaccaagt	3240
ctcgagtcct	ggggaaagcg	gtgctgcggg	atagcaatgg	aaagaggctg	aacgagcgcg	3300
accgcctgat	caagaggctg	ggccggaaga	cgccccgcac	gctgttccgg	ggcagctccc	3360
tgcagcaggg	cgtcccgcat	gggtatgctt	tttctcaaga	agaacacgg	gctgttagtc	3420
aggaagaagt	catccgtgct	tatgacacca	ccaaaaagaa	atccaggaag	aaataagaca	3480
tgaattttcc	tgactgatct	taggaaagag	attcagtttgc	ttgcacccag	tgttaacaca	3540
tctttgtcag	agaagacttgc	cgtcagcagc	caaaacacca	ggaaacacat	ttctgtggcc	3600
ttagccaagc	agtttggtag	ttacatattc	cctcgaaac	cta		3643

<210> 62
 <211> 3444
 <212> DNA
 <213> Human

<400> 62						
atgtcccgaa	ccacgtctgt	tggagaccag	ctggaggcac	ccgcccgcac	catttacctc	60
aaccaaccgc	atctcaacaa	attccgcac	aaccagatca	gtacggccaa	gtacagcgtg	120
ttgacatttc	tacctcgatt	cttgcattgag	cagattagaa	gagctgtctaa	tgccttctt	180
ctcttcatttgc	ccttattaca	gcaaatttca	gatgtatctc	caacaggaag	atataccacc	240
ctggtccat	tgatcattat	tttaacaatt	gcaggcatca	aagagattgt	agaagatttt	300
aagcgcacaca	aggcagacaa	tgcagttaac	aaaaagaaaa	caatagtgtt	aagaaatgg	360
atgtggcata	ccattatgt	gaaagaggtg	gcagtgggg	acattgtgaa	ggtcgtcaat	420
gggcagtatc	ttccagcaga	tgtggctctg	ctgtcatcca	gtgaacctca	ggcaatgtgt	480
tatgtgaaa	cagctaatct	ggatggggag	acgaacctt	aaatacgtca	gggtttgagt	540
caacactgctg	acatgcaaac	acgtgaagtt	ctgtatgt	tatctggaaac	tatagagtgt	600
gaagggccca	accgcccac	ctatgacttc	actggaaact	tgaacttaga	tggaaaaagc	660

cttggccccc	ttgggcctga	ccagatctta	ttaagaggtt	cacagcttag	aaatactcag	720
tgggtctttg	gcatagttgt	ttatactgg	cacgacacca	aactcatgca	gaattcaacc	780
aaagcgccctc	tcaagagatc	aatgttgag	aaggtgacta	acgtgcagat	cctgggtttg	840
tttggcatcc	tcttggtcat	ggccttgg	agctcggcgg	gggcctgtt	ctggAACAGG	900
tctcatggtg	aaaagaactg	gtacatcaag	aagatggaca	ccacctcaga	taattttgga	960
tacaacctac	tgacgttcat	catcttatac	aacaatctt	ttcccatcag	tctgttgg	1020
actcttgagg	ttgtgaagta	tactcaagcc	ctttcataa	actgggacac	agatatgtat	1080
tatataggaa	atgacactcc	tgccatggcc	aggacatcaa	accttaatg	agagcttggg	1140
cagggtaaat	atctctttc	tgacaagact	ggaacgctt	catgcaat	catgaacttt	1200
aagaagtgc	gcattggccgg	agtaacctat	ggtcacttcc	cagaattggc	aagagagccg	1260
tcttcagatg	acttctgtcg	gatgcctcct	ccctgttagt	attcctgt	ctttgtatgac	1320
cccgaggctgt	tgaagaacat	tgaggatcgc	catcccacag	cccctgtcat	tcaggagttc	1380
ctcacccttc	tgccgtgt	ccacacggtt	gttccgt	gagaagg	taacatcatc	1440
taccaggcct	tttccccaga	tgaagctgct	tttgtgaaag	gagctaaaaa	gctgggctt	1500
gtcttcacag	ccagaacacc	atttcagtc	atcatagaag	cgatgggaca	ggaacaaaca	1560
tttggaaatcc	ttaatgtcct	ggaattttct	agtgcacagaa	aaagaatgtc	tgtatttt	1620
cgaactcctt	caggacgact	tcggcttac	tgtaaagg	ctgataatgt	gattttgag	1680
agactttcaa	aagactcaa	atatatggag	gaaacattat	gccatctgg	atactttg	1740
acggaaaggct	tgcggactct	ctgtgtggct	tatgctgatc	tctctgagaa	tgagtatgag	1800
gagtggctga	aagtctatca	ggaagccagc	accatattga	aggacagagc	tcaacgg	1860
gaagagtgtt	acgagatcat	tgagaagaat	ttgctgtac	ttggagccac	agccatagaa	1920
gatgccttc	aagcaggagt	tccagaaacc	atcgcaacac	tgttgaaggc	agaaattaaa	1980
atatgggtgt	tgacaggaga	caaacaagaa	actgcgatta	atatagggtt	ttccgtccga	2040
tttgtatcgc	agaatatggc	ccttattcata	ttgaaggagg	actctttgg	tgccacaagg	2100
gcagccatta	ctcagcactg	cactgacctt	gggaatttgc	tggcaagga	aaatgacgt	2160
gccctcatca	tcgatggcca	caccctgaag	tacgcgtct	ccttcgaagt	ccggaggagt	2220
ttcctggatt	tggcactctc	gtgcaaagcg	gtcatatgt	gcagagtgtc	tcctctgcag	2280
aagtctgaga	tagtggatgt	ggtgaagaag	cgggtgaagg	ccatcaccc	cggccatcg	2340
gacggcgcca	acgatgtcg	gatgatccag	acagcccacg	tgggtgtgg	aatca	2400
aatgaaggca	tgcaggccac	caacaactcg	gattacgca	tcgcacagtt	ttcctactt	2460
gagaagcttc	tgttggttca	tggagcctgg	agctacaacc	gggtgaccaa	gtgcac	2520
tactgcttct	ataagaacgt	ggtcctgtat	attattgac	tttgttgc	ctttgttaat	2580
ggattttctg	ggcagattt	atttgaacgt	tttgtgc	gcctgtacaa	tgtatttt	2640
accgcttgc	cgccttcac	tctggaaatc	tttgagaggt	tttgactca	ggagagcat	2700
ctcaggtttc	cccagctcta	caaaatcacc	cagaatggcg	aaggcttcaa	cacaaagg	2760
ttctggggtc	actgcac	cgccctggc	cactccctca	tcctcttct	gttccat	2820
aaagctctgg	agcatgata	tgtgttgc	agtggc	ctaccgact	tttatttt	2880
ggaaatattt	tttacacata	tgtgttgc	actgtttgc	tgaaagctgg	tttggagacc	2940
acagcttgg	ctaaattcag	tcatctgg	gtctgggaa	gcatgctgac	ctggctgg	3000
tttttggca	tctactcgac	catctggccc	accatccc	ttgctccaga	tatgagagga	3060
caggcaacta	tggccttg	ctccgcacac	ttctgg	gattatttct	gttcctact	3120
gcctgtttga	ttgaagatgt	ggcatggaga	gcagcca	acacctgcaa	aaagacatt	3180
ctggaggagg	tgcaggagct	gaaacccaag	tctcgag	tggaaaagc	ggtgtcg	3240
gatagcaatg	gaaagaggct	gaacgagcgc	gaccgcctg	tcaagagg	ggccggaa	3300
acgccccccg	cgctgttccg	ggcagctcc	ctgcagcagg	gctcccgca	tggatgt	3360
ttttctcaag	aagaacacgg	agctgttagt	caggaagaag	tcatccgt	ttatgacacc	3420
accaaaaaga	aatccaggaa	gaaa				3444

<210> 63
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 63

cgcagaatat ggcccttatac c

21

<210> 64
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 64
cattttcctt gcccagcaaa

20

<210> 65
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe

<400> 65
ccatttactca gcactgcact gaccttgg

28

<210> 66
<211> 791
<212> PRT
<213> Human

<400> 66
Met Lys Ala His Pro Lys Glu Met Val Pro Leu Met Gly Lys Arg Val
5 10 15
Ala Ala Pro Ser Gly Asn Pro Ala Val Leu Pro Glu Lys Arg Pro Ala
20 25 30
Glu Ile Thr Pro Thr Lys Lys Ser Ala His Phe Phe Leu Glu Ile Glu
35 40 45
Gly Phe Glu Pro Asn Pro Thr Val Ala Lys Thr Ser Pro Pro Val Phe
50 55 60
Ser Lys Pro Met Asp Ser Asn Ile Arg Gln Cys Ile Ser Gly Asn Cys
65 70 75 80
Asp Asp Met Asp Ser Pro Gln Ser Pro Gln Asp Asp Val Thr Glu Thr
85 90 95
Pro Ser Asn Pro Asn Ser Pro Ser Ala Gln Leu Ala Lys Glu Glu Gln
100 105 110
Arg Arg Lys Lys Arg Arg Leu Lys Lys Arg Ile Phe Ala Ala Val Ser
115 120 125
Glu Gly Cys Val Glu Glu Leu Val Glu Leu Leu Val Glu Leu Gln Glu
130 135 140
Leu Cys Arg Arg Arg His Asp Glu Asp Val Pro Asp Phe Leu Met His
145 150 155 160
Lys Leu Thr Ala Ser Asp Thr Gly Lys Thr Cys Leu Met Lys Ala Leu
165 170 175
Leu Asn Ile Asn Pro Asn Thr Lys Glu Ile Val Arg Ile Leu Leu Ala
180 185 190
Phe Ala Glu Glu Asn Asp Ile Leu Gly Arg Phe Ile Asn Ala Glu Tyr
195 200 205
Thr Glu Glu Ala Tyr Glu Gly Gln Thr Ala Leu Asn Ile Ala Ile Glu

210	215	220
Arg Arg Gln Gly Asp Ile Ala Ala Leu Leu Ile Ala Ala Gly Ala Asp		
225	230	235
Val Asn Ala His Ala Lys Gly Ala Phe Phe Asn Pro Lys Tyr Gln His		240
245	250	255
Glu Gly Phe Tyr Phe Gly Glu Thr Pro Leu Ala Leu Ala Ala Cys Thr		
260	265	270
Asn Gln Pro Glu Ile Val Gln Leu Leu Met Glu His Glu Gln Thr Asp		
275	280	285
Ile Thr Ser Arg Asp Ser Arg Gly Asn Asn Ile Leu His Ala Leu Val		
290	295	300
Thr Val Ala Glu Asp Phe Lys Thr Gln Asn Asp Phe Val Lys Arg Met		
305	310	315
Tyr Asp Met Ile Leu Arg Ser Gly Asn Trp Glu Leu Glu Thr Thr		
325	330	335
Arg Asn Asn Asp Gly Leu Thr Pro Leu Gln Leu Ala Ala Lys Met Gly		
340	345	350
Lys Ala Glu Ile Leu Lys Tyr Ile Leu Ser Arg Glu Ile Lys Glu Lys		
355	360	365
Arg Leu Arg Ser Leu Ser Arg Lys Phe Thr Asp Trp Ala Tyr Gly Pro		
370	375	380
Val Ser Ser Ser Leu Tyr Asp Leu Thr Asn Val Asp Thr Thr Thr Asp		
385	390	395
Asn Ser Val Leu Glu Ile Thr Val Tyr Asn Thr Asn Ile Asp Asn Arg		
405	410	415
His Glu Met Leu Thr Leu Glu Pro Leu His Thr Leu Leu His Met Lys		
420	425	430
Trp Lys Lys Phe Ala Lys His Met Phe Phe Leu Ser Phe Cys Phe Tyr		
435	440	445
Phe Phe Tyr Asn Ile Thr Leu Thr Leu Val Ser Tyr Tyr Arg Pro Arg		
450	455	460
Glu Glu Glu Ala Ile Pro His Pro Leu Ala Leu Thr His Lys Met Gly		
465	470	475
Trp Leu Gln Leu Leu Gly Arg Met Phe Val Leu Ile Trp Ala Met Cys		
485	490	495
Ile Ser Val Lys Glu Gly Ile Ala Ile Phe Leu Leu Arg Pro Ser Asp		
500	505	510
Leu Gln Ser Ile Leu Ser Asp Ala Trp Phe His Phe Val Phe Phe Ile		
515	520	525
Gln Ala Val Leu Val Ile Leu Ser Val Phe Leu Tyr Leu Phe Ala Tyr		
530	535	540
Lys Glu Tyr Leu Ala Cys Leu Val Leu Ala Met Ala Leu Gly Trp Ala		
545	550	555
Asn Met Leu Tyr Tyr Thr Arg Gly Phe Gln Ser Met Gly Met Tyr Ser		
565	570	575
Val Met Ile Gln Lys Val Ile Leu His Asp Val Leu Lys Phe Leu Phe		
580	585	590
Val Tyr Ile Val Phe Leu Leu Gly Phe Gly Val Ala Leu Ala Ser Leu		
595	600	605
Ile Glu Lys Cys Pro Lys Asp Asn Lys Asp Cys Ser Ser Tyr Gly Ser		
610	615	620
Phe Ser Asp Ala Val Leu Glu Leu Phe Lys Leu Thr Ile Gly Leu Gly		
625	630	635
Asp Leu Asn Ile Gln Gln Asn Ser Lys Tyr Pro Ile Leu Phe Leu Phe		
645	650	655
Leu Leu Ile Thr Tyr Val Ile Leu Thr Phe Val Leu Leu Asn Met		
660	665	670

Leu Ile Ala Leu Met Gly Glu Thr Val Glu Asn Val Ser Lys Glu Ser
 675 680 685
 Glu Arg Ile Trp Arg Leu Gln Arg Ala Arg Thr Ile Leu Glu Phe Glu
 690 695 700
 Lys Met Leu Pro Glu Trp Leu Arg Ser Arg Phe Arg Met Gly Glu Leu
 705 710 715 720
 Cys Lys Val Ala Glu Asp Asp Phe Arg Leu Cys Leu Arg Ile Asn Glu
 725 730 735
 Val Lys Trp Thr Glu Trp Lys Thr His Val Ser Phe Leu Asn Glu Asp
 740 745 750
 Pro Gly Pro Val Arg Arg Thr Ala Asp Phe Asn Lys Ile Gln Asp Ser
 755 760 765
 Ser Arg Asn Asn Ser Lys Thr Thr Leu Asn Ala Phe Glu Glu Val Glu
 770 775 780
 Glu Phe Pro Glu Thr Ser Val
 785 790

<210> 67
 <211> 2373
 <212> DNA
 <213> Human

<400> 67

atgaaaagccc	accccaagga	gatgggcct	ctcatggca	agagagttgc	tgcccccagt	60
gggaacctg	ccgtcctgcc	agagaagagg	ccggcggaga	tcaccccccac	aaagaagagt	120
gcacacttct	tcctggagat	agaagggtt	gaacccaacc	ccacagttgc	caagacctct	180
cctcctgtct	tctccaagcc	catggattcc	aacatccggc	agtgcattctc	tggttaactgt	240
gatgacatgg	actccccca	gtctcctcaa	gatgatgtga	cagagacccc	atccaatccc	300
aacagcccca	gtgcacagct	ggccaaggaa	gagcagagga	ggaaaaaagag	gcggctgaag	360
aagcgcacatct	ttgcagccgt	gtctgagggc	tgcgtggagg	agttggtaga	gttgctggtg	420
gagctgcagg	agctttgcag	gcccgcctat	gatgaggatg	tgcctgactt	cctcatgcac	480
aagctgacgg	cctccgacac	ggggaaagacc	tgcctgatga	aggccttgtt	aaacatcaac	540
cccaacacca	aggagatcgt	gcggatcctg	cttgcctttg	ctgaagagaa	cgacatcctg	600
ggcaggttca	tcaacgcccga	gtacacagag	gaggcctatg	aagggcagac	ggcgctgaac	660
atcgccatcg	agcggcggca	gggggacatc	gcagccctgc	tcatcgccgc	cggcgccgac	720
gtcaacgcgc	acgccaagggg	ggccttcttc	aaccccaagt	accaacacga	aggctctac	780
ttcggtgaga	cgccccctggc	cctggcagca	tgcaccaacc	agcccggat	tgtgcagctg	840
ctgatggagc	acgagcagac	ggacatcacc	tgcgggact	cacgaggca	caacatcctt	900
cacgcctgg	tgaccgtggc	cgaggacttc	aagacgcaga	atgactttgt	gaagcgcac	960
tacgacatga	tcctactgcg	gagtggcaac	tgggagctgg	agaccactcg	caacaacatg	1020
ggcctcacgc	cgctgcagct	ggccgccaag	atggcaagg	cggagatccct	gaagtacatc	1080
ctcagtcgtg	agatcaagga	gaagcggctc	cggagctgt	ccaggaagtt	caccgactgg	1140
gcgtacggac	ccgtgtcata	ctccctctac	gacctcacca	acgtggacac	caccacggac	1200
aactcagtgc	tggaaatcac	tgtctacaac	accaacatcg	acaaacccggca	tgagatgctg	1260
accctggagc	cgctgcacac	gctgctgcat	atgaagtgg	agaagttgc	caagcacatg	1320
ttctttctgt	ccttctgctt	ttatcttc	tacaacatca	ccctgaccct	cgtctcgat	1380
taccgcggcc	gggaggagga	ggccatcccg	caccccttgg	ccctgacgca	caagatgggg	1440
tggctgcagc	tccttagggag	gatgtttgt	ctcatctggg	ccatgtgcac	ctctgtgaaa	1500
gagggcattg	ccatcttcct	gctgagaccc	tggatctgc	agtccatccct	ctcgatgcc	1560
tggttccact	ttgtctttt	tatccaagct	gtgcttgtga	tactgtctgt	tttctgtac	1620
ttgtttgcct	acaaagagta	cctcgccctgc	ctcgtgtgg	ccatggccct	gggctggcg	1680
aacatgctct	actataccgcg	gggttccag	tccatggca	tgtacagcg	catgatccag	1740
aaggcattt	tgcatgatgt	tctgaagttc	ttgtttgtat	atatcggtt	tttgcttgg	1800
tttggagtag	ccttggccctc	gctgatcgag	aagtgtccca	aagacaacaa	ggactgcagc	1860
tcctacggca	gcttcagcga	cgcagtgctg	gaactcttca	agctcaccat	aggcctgggt	1920
gacctgaaca	tccagcagaa	ctccaagttat	cccattctct	ttctgtccct	gctcatcacc	1980
tatgtcatcc	tcaccttctgt	tctccctcc	aacatgctca	ttgctctgt	gggcgagact	2040

gtggagaacg tctccaagga gagcgaacgc atctggcgcc tgcagagagc caggaccatc	2100
ttggagttt agaaaatgtt accagaatgg ctgaggagca gattccggat gggagagctg	2160
tgcaaagtgg ccgaggatga ttccgactg tggttgcgga tcaatgaggt gaagtggact	2220
gaatggaaga cgcacgtctc ctcccttaac gaagacccgg ggcctgtaag acgaacagca	2280
gattcaaca aaatccaaga ttcttccagg aacaacagca aaaccactct caatgcattt	2340
gaagaagtgc aggaattccc ggaaacctcg gtg	2373
<210> 68	
<211> 27	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 68	
ccatcctaat acgactcact atagggc	27
<210> 69	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 69	
cgggggcggt agtacgagac gag	23
<210> 70	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 70	
actcactata gggctcgagc ggc	23
<210> 71	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 71	
cagcaaaggc aagcaggatc cgcaactat	28
<210> 72	
<211> 17	
<212> DNA	
<213> Artificial Sequence	
<220>	

<223> Primer	
<400> 72	
caggaaacag ctatgac	17
<210> 73	
<211> 16	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 73	
gtaaaacgac ggccag	16
<210> 74	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 74	
gtgcactggg gctgttggga ttggatgg	28
<210> 75	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 75	
atggctggtg aggttctggg tggtcgtg	28
<210> 76	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 76	
tgaggaggag aacaaaggtg aggatgaca	29
<210> 77	
<211> 27	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	

<400> 77	
actgcgtcgc tgaagctgcc gtaggag	27
<210> 78	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 78	
tcccattctc tttctgttcc tgctcatca	29
<210> 79	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 79	
tgtcatcctc acctttgttc tcctcctca	29
<210> 80	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 80	
aacgaagacc cggggcctgt aagacgaa	28
<210> 81	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 81	
ccggccgcctc agccacagtc c	21
<210> 82	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 82	
gctctgggtt ccgcttctac ac	22

<210> 83
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 83
atgaaaagccc accccaagga gatg 24

<210> 84
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 84
ctacaccgag gtttccggga attc 24

<210> 85
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 85
tggaggcacga gcagacggac atca 24

<210> 86
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 86
gcggatcctg cttgcctttg ctgaa 25

<210> 87
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 87
cgcgggactc acgaggcaac aaca 24

<210> 88

<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 88	
ggctgggcga acatgctcta ctat	24
<210> 89	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 89	
cgctgctgca tatgaagtgg aagaagttt	29
<210> 90	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 90	
cagacggaca tcacacctcgcg ggactcacg	29
<210> 91	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 91	
gagagctgtg caaagtggcc gaggatgat	29
<210> 92	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 92	
gagtcccgcg aggtgatgtc cgtctgct	28
<210> 93	
<211> 28	
<212> DNA	

<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 93		
caactcctcc acgcagccct cagacacg		28
<210> 94		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 94		
gcctgacttc ctcatgcaca a		21
<210> 95		
<211> 19		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 95		
aggccttcat caggcaggt		19
<210> 96		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 96		
ctgacggcct ccgacacacggg		20
<210> 97		
<211> 697		
<212> DNA		
<213> Human		
<400> 97		
tgcaatgaga gcttcccgcc gcctcagcca cagtcccacc cggggggcctt gggccccaga	60	
catgcggta tctcagggca agggttgcca cgaccaccca gaacctcacc agccatgaaa	120	
gcccacccca aggagatggt gcctctcatg ggcaagagag ttgctgcccc cagtggaaac	180	
cctgcccgtcc tgccagagaa gaggccggcg gagatcaccc ccacaaaagaa gagtgacac	240	
ttcttcctgg agatagaagg gtttgaaccc aaccccacag ttgccaagac ctctcctcct	300	
gtcttctcca agcccatgga ttccaacatc cggcagtgca tctctggtaa ctgtgtatgac	360	
atggactccc cccagtctcc tcaagatgat gtgacagaga ccccatccaa tcccaacagc	420	
cccagtgcac agctggccaa ggaagagcag aggaggaaaa agaggcggct gaagaagcgc	480	
atctttgcag ccgtgtctga gggctgcgtg gaggagttgg tagagttgtct ggtggagctg	540	
caggagctt gcaggcggcg ccatgtatgag gatgtgcctg acttcctcat gcacaagctg	600	

acggcctccg acacgggaa gacctgcctg atgaaggcct tggtaaacat caaccccaac	660
accaaggaga tagtgccat cctgcttgc tttgctg	697
<210> 98	
<211> 275	
<212> DNA	
<213> Human	
<400> 98	
ttcttgcgca gtgcgtcatg gttgtgtgag tttgtgtcaa acttgctgta ggtctgcttg	60
aggatctgcc cagtcggcg gctgccgtct tccagcctcc ccatcagcgt ttggatgcct	120
tcctcttaggt cctttaggag gtgatagtca tcgctgtccc tgcaatgaga gcttcccgcc	180
gcctcagcca cagtcggccacc cgggggcctt gggcccccaga catgcggta tctcaggca	240
agggttgcac gaccacccag aacctcacca gccat	275
<210> 99	
<211> 586	
<212> DNA	
<213> Human	
<400> 99	
agaagtttgc caagcacatg ttctttctgt cttctgttctt tttttttttt tacaacatca	60
ccctgaccct cgtctcgat taccggcccc gggaggagga ggcacatcccg cacccttgg	120
ccctgacgca caagatgggg tggctgcagc tccttagggag gatgtttgtg ctcatctggg	180
ccatgtgcat ctctgtgaaa gaggcattt ccatcttcct gctgagaccc tcggatctgc	240
agttccatctt ctcggatgcc tggttccact ttgtctttt tatccaagct gtgctgtga	300
tactgtctgt ttctttgtac ttgtttgcct acaaagagta cctcgcctgc ctcgtgtgg	360
ccatggccct gggctggcg aacatgtctt actataacgcg gggtttccag tccatggca	420
tgtacagcgt catgatccag aaggtcattt tgcatgatgt tctgaagttc ttgtttgtat	480
atatcggtt ttgcttggaa ttggagtag ccttggccctc gctgatcgag aagtgtccca	540
aagacaacaa ggactgcagc tcctacggca gcttcagcga cgcagt	586
<210> 100	
<211> 307	
<212> DNA	
<213> Human	
<400> 100	
tgtcatacctc acctttgttc tcctcctcaa catgctcatt gctctgtatgg gcgagactgt	60
ggagaacgtc tccaaggaga gcgaacgcattt ctggcgccctg cagagagccaa ggaccatctt	120
ggagtttgag aaaatgttac cagaatggctt gaggagcaga ttccggatgg gagagctgtg	180
caaagtggcc gaggatgatt tccgactgtg tttgcggatc aatgaggtga agtggactga	240
atggaaagacg cacgtctccct tccttaacga agacccgggg cctgtaaagac gaacagcaga	300
tttcaac	307
<210> 101	
<211> 156	
<212> DNA	
<213> Human	
<400> 101	
aacgaagacc cggggcctgt aagacgaaca gcagattca acaaaaatcca agattttcc	60
aggaacaaca gcaaaaaccac tctcaatgca tttgaagaag tcgaggaatt cccggaaacc	120
tcgggtttaga agcggaaaccc agagctggtg tgccgcg	156
<210> 102	

<211> 2376
<212> DNA
<213> Human

<400> 102

atgaaaagccc	accccaagga	gatgggcct	ctcatggca	agagagttgc	tgccccagt	60
gggaacctg	ccgtcctgcc	agagaagagg	ccggcgagaa	tcaccccccac	aaagaagagt	120
gcacacttct	tcctggagat	agaagggttt	gaacccaacc	ccacagttgc	caagacctct	180
cctcctgtct	tctccaagcc	catggattcc	aacatccggc	agtgcacatctc	tggtaactgt	240
gatgacatgg	actccccca	gtctcctcaa	gatgatgtga	cagagacccc	atccaatccc	300
aacagcccc	gtgcacagct	ggccaaggaa	gagcagagga	ggaaaaagag	gcggctgaag	360
aagcgcacatct	ttgcagccgt	gtctgagggc	tgcgtggagg	agttggtaga	gttgcgtgg	420
gagctgcagg	agctttgcag	gcccgcctat	gatgaggatg	tgcctgactt	cctcatgcac	480
aagctgacgg	cctccgacac	ggggaaagacc	tgcctgatga	aggccttgtt	aaacatcaac	540
cccaacacca	aggagatcgt	gcggatcctg	cttgccttgc	ctgaagagaaa	cgacatcctg	600
ggcagggttca	tcaacgcccga	gtacacagag	gagccctatg	aagggcagac	ggcgctgaac	660
atcgccatcg	agcggcgccga	gggggacatc	gcagccctgc	tcatcgccgc	cggcggccgac	720
gtcaacgcgc	acgccaagg	ggccttcttc	aaccccaagt	accaacacga	aggcttctac	780
ttcggtgaga	cgcgcctggc	cctggcagca	tgcaccaacc	agcccggat	tgtgcagctg	840
ctgatggagc	acgagcagac	ggacatcacc	tcgcggact	cacgaggca	caacatcctt	900
cacgcccctgg	tgaccgtggc	cgaggacttc	aagacgcaga	atgactttgt	gaagcgcatg	960
tacgacatga	tcctactgcg	gagtggcaac	tgggagctgg	agaccactcg	caacaacgat	1020
ggcctcacgc	cgctgcagct	ggccgcgaag	atgggcaagg	cggagatccct	gaagtacatc	1080
ctcagtctgt	agatcaagga	gaagcggctc	cggagcctgt	ccaggaagtt	caccgactgg	1140
gcgtacggac	ccgtgtcatac	ctccctctac	gacctcacca	acgtggacac	caccacggac	1200
aactcagtgc	tggaaatcac	tgtctacaac	accaacatcg	acaacccggca	tgagatgctg	1260
accctggagc	cgctgcacac	gctgctgcat	atgaagtgg	agaagttgc	caagcacatg	1320
ttctttctgt	ccttctgtt	ttatattcttc	tacaacatca	ccctgaccct	cgtctcgatc	1380
tacccccc	gggaggagga	ggccatcccg	caccccttgg	ccctgacgca	caagatgggg	1440
tggctgcagc	tccttagggag	gatgtttgt	ctcatctggg	ccatgtgcac	ctctgtgaaa	1500
gagggcattg	ccatcttcc	gctgagaccc	tcggatctgc	agtccatccct	ctcgatgcc	1560
tggttccact	ttgtcttttt	tatccaagct	gtgcttgc	tactgtctgt	cttctgtac	1620
ttgtttgcct	acaaagagta	cctcgccctgc	ctcgtgctgg	ccatggccct	gggctggcg	1680
aacatgctct	actatacgcg	gggtttccag	tccatggca	tgtacagcgt	catgatccag	1740
aaggtcattt	tgcatgatgt	tctgaagttc	ttgtttgtat	atatcgatgtt	tttgcttgg	1800
tttggagtag	ccttggcctc	gctgatcgag	aagtgtccca	aagacaacaa	ggactgcagc	1860
tcctacggca	gcttcagcga	cgcagtgctg	gaactcttca	agtcacccat	aggcctgggt	1920
gacctgaaca	tccagcagaa	ctccaagtat	cccattctct	ttctgtccct	gctcatcacc	1980
tatgtcatcc	tcaccttgc	tctccctcc	aacatgctca	ttgctctgt	gggcgagact	2040
gtggagaacg	tctccaagga	gagcgaacgc	atctggcc	tgcagagac	caggaccatc	2100
ttggagttt	agaaaaatgtt	accagaatgg	ctgaggagca	gattccggat	gggagagctg	2160
tgcaaagtgg	ccgaggatga	tttccgactg	tgttgcgg	tcaatgaggt	gaagtggact	2220
gaatggaaga	cgcacgtctc	cttcccttaac	gaagacccgg	ggcctgttaag	acgaacagca	2280
gatttcaaca	aaatccaaga	tttcccttgg	aacaacagca	aaaccactct	caatgcattt	2340
gaagaagtcg	aggaattccc	ggaaacacctcg	gtgttag			2376

<210> 103
<211> 2373
<212> DNA
<213> Human

<400> 103

atgaaaagccc	accccaagga	gatgggcct	ctcatggca	agagagttgc	tgccccagt	60
gggaacctg	ccgtcctgcc	agagaagagg	ccggcgagaa	tcaccccccac	aaagaagagt	120
gcacacttct	tcctggagat	agaagggttt	gaacccaacc	ccacagttgc	caagacctct	180
cctcctgtct	tctccaagcc	catggattcc	aacatccggc	agtgcacatctc	tggtaactgt	240
gatgacatgg	actccccca	gtctcctcaa	gatgatgtga	cagagacccc	atccaatccc	300

aacagccccca gtgcacagct ggccaaggaa gaggcagagga ggaaaaaagag gcggctgaag 360
aagcgcatct ttgcagccgt gtctgagggc tgcgtggagg agttggtaga gttgctggtg 420
gagctgcagg agcttgcag gcggcgccat gatgaggatg tgcctgactt cctcatgcac 480
aagctgacgg cctccgacac ggggaagacc tgccctgatga aggccctgtt aaacatcaac 540
cccaacacca aggagatagt gcggatcctg cttgccttg ctgaagagaa cgacatcctg 600
ggcaggttca tcaacgcccga gtacacagag gaggcctatg aagggcagac ggcgctgaac 660
atcgccatcg agcggcggca gggggacatc gcagccctgc tcatcgccgc cggcggccgac 720
gtcaacgcgc acgccaaggg ggccttcttc aaccccaagt accaacacga aggcttctac 780
ttcggtgaga cgcggcttgc cctggcagca tgccacaacc agcccgagat tgtgcagctg 840
ctgatggagc acgagcagac ggacatcacc tcgcgggact cacgaggcaa caacatcctt 900
cacgcccctgg tgaccgtggc cgaggacttc aagacgcaga atgactttgt gaagcgcatg 960
tacgacatga tcctactgctg gagtggcaac tgggagctgg agaccactcg caacaacgat 1020
ggcctcacgc cgctgcagct ggccgccaag atgggcaagg cggagatcct gaagtacatc 1080
ctcagtcgtg agatcaagga gaagcggctc cggagcctgt ccaggaagtt caccgactgg 1140
gcgtacggac ccgtgtcatc ctcctctac gacctcacca acgtggacac caccacggac 1200
aactcagtgc tgaaaatcac tgtctacaac accaacatcg acaaccggca tgagatgctg 1260
accctggagc cgctgcacac gctgctgcat atgaagtggg agaagttgc caagcacatg 1320
ttctttctgt cttctgtctt ttatttcttc tacaacatca ccctgaccct cgtctcgatc 1380
taccggcccc gggaggagga ggcacatcccg cacccttgg ccctgacgca caagatgggg 1440
tggctgcagc tcctagggag gatgtttgtg ctcatctggg ccatgtgcac ctctgtaaa 1500
gagggcattg ccatcttcct gctgagaccc tcggatctgc agtccatcct ctggatgccc 1560
tggttccact ttgtctttt tatccaagct gtgcttgta tactgtctgt cttcttgtac 1620
ttgtttgcct acaaagagta cctcgccctgc ctcgtgtgg ccatggccct gggctggcg 1680
aacatgcctc actatacgcg gggtttccag tccatgggca tgtacagcgt catgatccag 1740
aaggtcattt tgcatgatgt tctgaagttc ttgtttgtat atatcggtt tttgcttgaa 1800
tttggagtag cttggccctc gctgatcgag aagtgtccca aagacaacaa ggactgcagc 1860
tcctacggca gttcagcga cgcagtgctg gaactcttc acgtcaccat aggccctgggt 1920
gacctgaaca tccagcagaa ctccaagtt cccattctt ttctgttccct gctcatcacc 1980
tatgtcatcc tcaccttgc ttcctccctc aacatgctca ttgctctgtat gggcgagact 2040
gtggagaacg tctccaagga gagcgaacgc atctggcgcc tgcagagagc caggaccatc 2100
ttggagttt agaaaatgtt accagaatgg ctgaggagca gattccggat gggagagctg 2160
tgcaaagtgg ccgaggatga ttccgactg tgtttgcggg tcaatgaggt gaagtggact 2220
gaatggaaaga cgcacgtctc cttcccttaac gaagacccgg ggcctgtaaag acgaacagca 2280
gatttcaaca aaatccaaga ttcttcagg aacaacagca aaaccactct caatgcattt 2340
gaagaagtgc aggaattccc ggaaacctcg gtg 2373

<210> 104
<211> 373
<212> PRT
<213> Mouse

<400> 104

Met	Ser	Thr	Asp	Cys	Ala	Gly	Asn	Ser	Thr	Cys	Pro	Val	Asn	Ser	Thr
					5					10					15
Glu	Glu	Asp	Pro	Pro	Val	Gly	Met	Glu	Gly	His	Ala	Asn	Leu	Lys	Leu
					20				25					30	
Leu	Phe	Thr	Val	Leu	Ser	Ala	Val	Met	Val	Gly	Leu	Val	Met	Phe	Ser
					35				40					45	
Phe	Gly	Cys	Ser	Val	Glu	Ser	Gln	Lys	Leu	Trp	Leu	His	Leu	Arg	Arg
					50				55					60	
Pro	Trp	Gly	Ile	Ala	Val	Gly	Leu	Leu	Ser	Gln	Phe	Gly	Leu	Met	Pro
					65				70					75	
Leu	Thr	Ala	Tyr	Leu	Leu	Ala	Ile	Gly	Phe	Gly	Leu	Lys	Pro	Phe	Gln
					85				90					95	
Ala	Ile	Ala	Val	Leu	Met	Met	Gly	Ser	Cys	Pro	Gly	Gly	Thr	Ile	Ser
					100				105					110	
Asn	Val	Leu	Thr	Phe	Trp	Val	Asp	Gly	Asp	Met	Asp	Leu	Ser	Ile	Ser

115	120	125
Met Thr Thr Cys Ser Thr Val	Ala Ala Leu Gly	Met Met Pro Leu Cys
130	135	140
Leu Tyr Ile Tyr Thr Arg Ser Trp Thr Leu Thr Gln Asn Leu Val Ile		
145	150	155
Pro Tyr Gln Ser Ile Gly Ile Thr Leu Val Ser Leu Val Val Pro Val		
165	170	175
Ala Ser Gly Val Tyr Val Asn Tyr Arg Trp Pro Lys Gln Ala Thr Val		
180	185	190
Ile Leu Lys Val Gly Ala Ile Leu Gly Gly Met Leu Leu Val Val		
195	200	205
Ala Val Thr Gly Met Val Leu Ala Lys Gly Trp Asn Thr Asp Val Thr		
210	215	220
Leu Leu Val Ile Ser Cys Ile Phe Pro Leu Val Gly His Val Thr Gly		
225	230	235
Phe Leu Leu Ala Phe Leu Thr His Gln Ser Trp Gln Arg Cys Arg Thr		
245	250	255
Ile Ser Ile Glu Thr Gly Ala Gln Asn Ile Gln Leu Cys Ile Ala Met		
260	265	270
Leu Gln Leu Ser Phe Ser Ala Glu Tyr Leu Val Gln Leu Leu Asn Phe		
275	280	285
Ala Leu Ala Tyr Gly Leu Phe Gln Val Leu His Gly Leu Leu Ile Val		
290	295	300
Ala Ala Tyr Gln Ala Tyr Lys Arg Arg Gln Lys Ser Lys Cys Arg Arg		
305	310	315
Gln His Pro Asp Cys Pro Asp Val Cys Tyr Glu Lys Gln Pro Arg Glu		
325	330	335
Thr Ser Ala Phe Leu Asp Lys Gly Asp Glu Ala Ala Val Thr Leu Gly		
340	345	350
Pro Val Gln Pro Glu Gln His His Arg Ala Ala Glu Leu Thr Ser His		
355	360	365
Ile Pro Ser Cys Glu		
370		

<210> 105
 <211> 1119
 <212> DNA
 <213> Mouse

<400> 105

atgagcacag	actgtgcggg	caactccacc	tgccctgtca	acagtacgga	ggaagacccg	60
cccggtggaa	tggagggcca	tgcgaaatcta	aagctgcttt	ttacagtgtct	ctcggtgtg	120
atgggtgggtt	tggtcatgtt	ctcttttgg	tgttctgtgg	agagtcagaa	gctctgggttg	180
cacccctcgaaa	gaccctgggg	catcgcaagt	ggcctgcttt	cccagttgg	acttatgcct	240
ctgacagctt	atctgttagc	cattggcttc	ggtctgaaac	cattccaagc	tattgctgtc	300
ctcatgatgg	ggagctgccc	tggggcacc	atctctaattg	ttctcacctt	ctgggttgat	360
ggagatatgg	atctcagcat	cagtatgaca	acctgttcca	cagtggccgc	cctggaaatg	420
atgcctctct	gcctctacat	ctacaccgg	tcctggactc	tgacacagaaa	cctcgtcatt	480
ccgtatcaga	gcataggaat	tacccttgg	tccctgggtgg	ttctgtggc	ttctggcgtc	540
tatgtgaatt	ataggtggcc	aaagcaagca	acggtcattc	tcaagggtcg	agccattctg	600
ggtggcatgc	tcctcctgg	ggtggcagtt	actggcatgg	tcctggcaaa	aggctggaac	660
acagacgtca	ctcttctgg	catcagctgc	atttcccct	tgttcggcca	tgtcacaggc	720
ttcctgctgg	cattcctcac	ccaccaatct	tggcaaagg	gcaggaccat	ttccatagag	780
actggcgctc	agaacatcca	gctgtgcata	gccatgctgc	agctgtcctt	ctctgctgag	840
tacctggtcc	agctgctaaa	ctttgcattt	gcctatggac	tcttccaagt	gctgcacggg	900
ctgctcattt	tcgcagcata	tcaggcatac	aagaggaggc	agaagagtaa	atgcaggaga	960
cagcacccgg	attgcccaga	cgtctgtac	gagaagcagc	ccagagagac	cagtgtttc	1020

ttggataaaag gggatgaggc tgccgtaact ctggggccag tgcagccaga gcagcaccac	1080
agggctgctg agctgactag ccacattcct tcatgtgaa	1119
<210> 106	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 106	
gacctgcccc gacccgttgcata ctca	24
<210> 107	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 107	
tcttcactgg ccacggagga ggat	24
<210> 108	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 108	
ctatttgctgt cctcatgatg g	21
<210> 109	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 109	
catgctgcag ctgtccttct c	21
<210> 110	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 110	
ccatcatgag gacagcaata g	21

```
<210> 111
<211> 21
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Primer

<400> 111
q a q a a q q a c a q c t q c a q c a t q

21

<210> 112
<211> 1237
<212> DNA
<213> Mouse

<400> 112
gacctgcccc gtgcttgcta ctcatgttcc ttgtgttcc tgtgttctaa ttcatgagag 60
gagatgagca cagactgtgc gggcaactcc acctgcccctg tcaacagtac ggaggaagac 120
ccgccccgtgg gaatggaggg ccatgcgaat ctaaagctgc tttttacagt gctctcggt 180
gtgatggtgg gtttggtcat gttctcttt ggatgttctg tggagagtca gaagctctgg 240
ttgcacctca gaagaccctg gggcatcgca gtgggcctgc tttccagtt tggactttatg 300
cctctgacag cttatctgtt agccattggc ttccgtctga aaccattcca agctattgt 360
gtcctcatga tggggagctg ccctgggggc accatctcta atgttctcac ttctgggtt 420
gatggagata tggatctcag catcagtatg acaacctgtt ccacagtggc cgccctggga 480
atgatgcctc tctgcctcta catctacacc cggtcctgga ctctgacaca gaacctcgtc 540
attccgtatc agagcatagg aattaccctt gtgtccctgg tggttctgt ggcttctggc 600
gtctatgtga attataggta gccaaagcaa gcaacggta ttctcaaggt cggagccatt 660
ctgggtggca tgctcctcct ggtgggtggca gttaactggca tggtcctggc aaaaggctgg 720
aacacagacg tcaactcttct ggtcatcagc tgcattttcc ctttggtcgg ccatgtcaca 780
ggcttcctgc tggcattcct caccaccaa tcttggcaaa ggtgcaggac catttccata 840
gagactggcg ctcaagaacat ccagctgtgc atcgccatgc tgcagctgtc ttctctgtc 900
gagttacctgg tccagctgtc aaactttgca ttggcctatg gactttcca agtgcgtcaca 960
gggctgctca ttgtcgcagc atatcaggca tacaagagga ggcagaagag taaatgcagg 1020
agacagcacc cggattgccc agacgtctgc tacgagaagc agcccagaga gaccagtgtc 1080
ttcttggata aaggggatga ggctgcccgt aactctggggc cagtgcagcc agagcagcac 1140
cacagggctg ctgagctgac tagccacatt cttcatgtg aatagtggga ggcacggacc 1200
agcttggccc tccatcctcc tccgtggcca gtgaaga 1237

<210> 113
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 113
cttcttggcgt ctagtgcgtat tatagg

26

```
<210> 114
<211> 19
<212> DNA
<213> Artificial Sequence
```

<220>

<223> Primer

<400> 114

gagcatgcc a c c a g a a t g

19

<210> 115

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Probe

<400> 115

caaagcaagc a a c g g t c a t t c t c a a g g t c

29

<210> 116

<211> 1046

<212> DNA

<213> Rat

<220>

<221> misc_feature

<222> (811)..(812)

<223> a, c, g or t

<400> 116

gaagaccac	ccgtggaaat	ggagggacag	gggagcctga	agcttggttt	cacagtcctg	60
tcggctgtga	tgggtggct	ggtcatgttc	tcctttggat	gttcagtgg	gagtggaaag	120
ctctggctgc	acctcagaag	accctggggc	atcgcagtgg	gcctgcttg	ccagttggg	180
ctcatgcctc	tgacagctta	tctgctagcc	attggcttcg	gtctgaaacc	attccaaagct	240
attgccgtcc	tcatcatggg	gagctgccct	gggggcaccc	tctctaattgt	cctcaccttc	300
tgggttgatg	gagatatgga	cctcagcatc	agcatgacga	cctgctccac	agtggctgct	360
ctggaaatga	tgcccctctg	cctctacgtc	tacaccgggt	cctggactct	tccacagagc	420
ctcaccatcc	cgtaccagag	cataggaatt	acccttgtgt	ccctgggttg	tcctgtggcc	480
tccggcatct	atgtgaatta	tagtgccca	aagcaagcaa	cattcattct	caaggtcggg	540
gctgctgttg	gccccatgct	cctccctgggt	gtggcagtt	ccggcgtgg	cctggcaaag	600
ggcttggaaaca	tagatgtcac	tcttctggtc	atcagctgt	ttttccctt	ggtcggccat	660
gtcatgggct	tcctgctggc	gttcctcacc	caccagtctt	ggcaaagggtg	caggacgatt	720
tccatagaga	ccggagcaca	gaacatccag	ctgtgcattt	ccatgatgca	gctgtccctc	780
tctgctgagt	acctggtcca	gctgttaaac	nncgcctgg	cctacggact	cttccaagtg	840
ctgcacgggc	tgctcattgt	cgcagcatat	caggcataca	agaggaggca	gaagagtcaa	900
tacaggagac	agcacccgga	gtgccaagac	atcagctctg	agaagcagcc	cagagagacc	960
agtgcctct	tggataaaagg	ggctgaggct	gctgtaactc	tggggctaga	gcagcaccac	1020
aggaccgctg	aactgaccag	tcacgt				1046

<210> 117

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 117

atgagcgcag actgcgaggg caa	23
<210> 118	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 118	
tcccaactatt cacatgaagg aacg	24
<210> 119	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 119	
tccggcatct atgtgaatta tagg	24
<210> 120	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 120	
taactgccac caccaggagg	20
<210> 121	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Probe	
<400> 121	
agcaagcaac attcattctc aaggtcgg	28
<210> 122	
<211> 36	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 122	
taggaagctt gtcgacatga gagccaattt ttccag	36

<210> 123		
<211> 38		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 123		
aatgtctaga actagtctat tcacatgaag tcatgtgg		38
<210> 124		
<211> 18		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 124		
tagaaggcac agtcgagg		18
<210> 125		
<211> 317		
<212> DNA		
<213> Mouse		
<400> 125		
ccggaggaac ctgccaaaat caagcatcg ttctttgtat aagaagctgg agatgaaaca	60	
ggccatttagat atggtagaga ctgggatact gagctctgtg gcttctccca caccctatca	120	
gtctgagagg atacaggaa tcaagcggct ttctcctgaa gacgtggagt ccatgcggga	180	
cattctgaca agaagcatgt accaagttcg acaaagaacc ctatcctaca acaaatacaa	240	
cctccaaaccc caaacaagtg agaagcaagc caaagagatt ctgatccgtc gccagaacac	300	
cttgagggag agcatgc	317	
<210> 126		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 126		
ccggaggaac ctgccaaaat caa		23
<210> 127		
<211> 26		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 127		
gcatgctc cctcaagggtg ttctgg		26

```

<210> 128
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 128
gatgaaacag gccattgaga tg 22

<210> 129
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 129
gattccctgt atcctctcag actga 25

<210> 130
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe

<400> 130
ctggatact gagctctgtg gctt 24

<210> 131
<211> 363
<212> DNA
<213> Rat

<400> 131
tcgtggatg cgggggagta ttttcggca tcattttgg attcattcc gcatttatca 60
cacgttcac tcagaacatc tctgcgatcg agcctctcat cgtcttcatg ttcagctatc 120
tgtcttactt agcagccgag acgcttatac tctccggaat cctggccatc acagcttg 180
cagtgacaat gaaaaagtac gtgaaagaga acgtgtccca gacgtcgtac acgaccatca 240
agtacttcat gaagatgtcg agcagcgtga gcgagaccct catcttcatc ttcatggc 300
tgtccaccgt tgggaagaac catgagtgg aactggctt cgtctgcttc accctggc 360
tct 363

<210> 132
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 132
tcgtggatg cgggggagta ttt 23

```

<210> 133	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 133	
agaaggccag ggtgaagcag acga	24
<210> 134	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 134	
agcagccgag acgctttatc t	21
<210> 135	
<211> 26	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 135	
tctttccac gtacttttc attgtc	26
<210> 136	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 136	
aatcctggcc atcacagctt gtgca	25
<210> 137	
<211> 35	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 137	
gacaagctta tcgatatggc tctgcagatg ttcgt	35
<210> 138	

<211> 39	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 138	
gactctagaa ctagtctatt tttttggag caaaggact	39
<210> 139	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 139	
ctcctgccac ccatcggtct	20
<210> 140	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 140	
gctggatgtg cccgattcat	20
<210> 141	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 141	
catcagcgta tttgctctct	20
<210> 142	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 142	
tccccaaaga tcatacatgta	20
<210> 143	
<211> 680	
<212> DNA	

<213> Mouse

<400> 143

tccacggagc	ctggagctac	aaccgggtga	ccaagtgtat	cctgtactgt	ttctacaaga	60
atgtggct	ctacatcatc	gagctatgg	tcgccttgt	aatggattt	tctggcaga	120
tttattcga	gcgctggtgc	atcggcttgc	acaatgtat	cttcacggca	ttggccccc	180
tcactctgg	gatcttcgag	aggcttgc	ctcaggagag	catgctcagg	ttccacagc	240
tttacagaat	cactcagaac	gctgaagggtt	tcaacactaa	ggtttctgg	ggtcactgca	300
tcaatgcctt	ggttcattcc	ctcatcctct	tctgggttcc	catgaaagcg	ctggagcatg	360
atactccagt	aaccagcggt	catgccacag	actattgtt	tgttggaaat	attgttaca	420
cgtacgttgt	ggttacagtt	tgttggaaag	ctgggttgg	gacgacagct	tggacgaaat	480
tcagtcacct	ggcggtgtgg	ggaagcatgc	tgatctgg	gggttcttt	gggtctatt	540
caaccatctg	gccgaccatc	ccattgctc	ctgacatgaa	agggcaggca	actatggtcc	600
tgagctctgc	gtacttctgg	ttgggattgt	tcctgggttcc	gactgcgtgt	ttgattgaag	660
acgtggcg	tgagagcg	cc				680

<210> 144

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 144

gccatcgcac agtttccta cct

23

<210> 145

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 145

catcctcttt ccgttactgt ctgc

24

<210> 146

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 146

aaccatctgg ccgaccatc

19

<210> 147

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 147		
acgcagagct caggaccata g		21
<210> 148		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 148		
tgccctgcctt ttcatgtcag gagc		24
<210> 149		
<211> 771		
<212> DNA		
<213> Rat		
<400> 149		
gctgcttttg gtccatggag cctggagcta caaccgggtg accaagtgc a tcctctactg	60	
tttctataag aatgtggtcc tctacatcat tgagctttgg ttgcgccttg ttaatggatt	120	
ttctgggcag attttatttg a cgcgtggtg catcgcttg tacaatgtga tcttcacagc	180	
attgccaccc ttcaactctgg ggatcttcga gaggtcgtgt actcaggaga gcatgctcag	240	
gtttccacag ctctacaaaaa tcactcagaa cgccgaaggt ttcAACACGA aggtttctg	300	
gggtcactgc atcaatgcct tggccactc cctcatcctc ttctgggttc caatgaaagc	360	
gctggagcac gataactccgc taaccagtgg tcacgcccaca gactatttg ttgttggaaa	420	
tattgtttac acgtacgttgg tggcacagt ttgtttgaaa gctggtttgg agacgacagc	480	
ttggactaaa ttcaagtcc tggcagtgtg gggaaagcatg ctgatctggg tgggtttctt	540	
tgggtgtctat tcaaccttctt ggccgaccat ccccatcgct cctgacatga aagggcaggc	600	
aactatggtc ctgagttctg cccacttctg gttgggttgg ctccctgggttc ccactgcgtg	660	
tttgatcgag gatgtggcgt ggagagcggc caaacacacc tgcaaaaaaga cactgtctgg	720	
aggaggttca ggagctggag accaagtccc gagtgtatgg gcaaaagcgt g	771	
<210> 150		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 150		
tattcaacct tctggccgac c		21
<210> 151		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 151		
accagaagtg ggcagaactc a		21
<210> 152		

<211> 28		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 152		28
catagttgcc tgccctttca tgtcagga		
<210> 153		
<211> 37		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 153		37
ttggatccgt cgacatgtcc cgggccacgt ctgttgg		
<210> 154		
<211> 43		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 154		43
ccgcggccgc actagtttat ttcttcctgg atttctttt ggt		
<210> 155		
<211> 1064		
<212> DNA		
<213> Mouse		
<400> 155		
acagcctgag attgtgcagc tgctgatgga gaatgagcag acagacatcg cttccagga	60	
ttcccgggaa aacaacatcc tgcacgcgct ggtgacggtg gctgaggact tcaagactca	120	
aatgacttc gttaagcgcgt tttatgacat gatcctgctg aggagtggca actgggagct	180	
ggagaccatg cgcaacaacg atgggctcac gccactgcag ctggctgcca agatggcaa	240	
ggctgagatc ctgaagtaca tcctcagccg cgagatcaag gagaaggctc tccggagctt	300	
gtccaggaag ttacggact gggcgatgg gcctgttca tcctcactct atgacctcac	360	
caatgttagac acaacgcacgg ataactctgt gctggaaatc atcgtctaca acaccaacat	420	
tgataaccga catgagatgc tgaccctgga gcctctgcat acgctgctac acacgaaatg	480	
gaagaaattt gccaagtaca tttttttttt gtccttctgc ttctatttct tctacaacat	540	
caccctgacc cttgtctttt actaccgtcc tcggaaatg gaggatctcc cacaccctt	600	
ggccctgaca cacaaaatga gttggcttca gtccttaggg agatgtttt tcctcatctg	660	
ggccacatgc atctctgtga aagaaggcat tgccatttc ctgctgagac cctccatct	720	
tcagtcatc ctgtcagatg cttggtttca cttgtcttt ttgttcaag ctgtacttgt	780	
gatactgtct gtattcttgt actgtttgc ctacaagaa tacctcgccct gcctcgct	840	
ggccatggcc ctgggctggg cgaacatgct ctactacacg agaggcttcc agtctatgg	900	
catgtacagc gtcatgatcc agaaggcat tttgcattgtat gtcctcaagt tttgtttgt	960	
ttacatcctg ttcttacttg gattggagt agcgctggcc tcactgattt agaagtgtc	1020	
caaggacaaa aaggactgca gttcctatgg cagttcagc gaca	1064	

<210> 156	
<211> 27	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 156	
gcgtgtacta accagcctga gattgtg	27
<210> 157	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 157	
gtcgctgaag ctgccccatagg aactg	25
<210> 158	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 158	
ctgagaccct ccgatcttca gt	22
<210> 159	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 159	
ggcaggcgag gtattctttg ta	22
<210> 160	
<211> 30	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Probe	
<400> 160	
cctgtcagat gcctggtttc actttgtctt	30
<210> 161	
<211> 34	

<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 161		
cggggtaccc tcgacatgaa agcccacccc aagg		34
<210> 162		
<211> 37		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 162		
atttgcggcc gcactagtct acaccgaggt ttccggg		37
<210> 163		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 163		
taatacgact cactataggg		20
<210> 164		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 164		
gacacgggga agacctgcct gatg		24
<210> 165		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Primer		
<400> 165		
gtggcaactg ggagctggag acc		23
<210> 166		
<211> 24		
<212> DNA		

<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 166	
ggccatgtg catctctgtg aaag	24
<210> 167	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 167	
ctgatggcg agactgtgga g	21
<210> 168	
<211> 18	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 168	
tagaaggcac agtcgagg	18
<210> 169	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 169	
ctccacagtc tcgccccatca g	21
<210> 170	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 170	
ctttcacaga gatgcacatg gccc	24
<210> 171	
<211> 23	
<212> DNA	
<213> Artificial Sequence	

<220>
<223> Primer

<400> 171
ggtctccagc tcccagttgc cac

23

<210> 172
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 172
catcaggcag gtcttcccg tgtc

24